PIXMA MP 780
PIXMA MP 750

SERVICE MANUAL

Canon

Copyright 2004, Canon U.S.A. This technical publication is the proprietary and confidential information of Canon U.S.A. which shall be retained for reference purposes by Authorized Service Facilities of Canon U.S.A. Its unauthorized use is prohibited.

PIXMA MP750/780 SERVICE MANUAL

REVISION 0

PIXMA MP750	**H12-4562**	**120V USA**
PIXMA MP750	**H12-4563**	**230V EMB**
PIXMA MP750	**H12-4564**	**230V GB**
PIXMA MP750	**H12-4565**	**230V EUM**
PIXMA MP750	**H12-4566**	**120V CND**
PIXMA MP750	**H12-4568**	**230V AUS**
PIXMA MP780	**H12-4582**	**120V USA**
PIXMA MP780	**H12-4583**	**230V EE/NE**
PIXMA MP780	**H12-4584**	**230V GB/ME/NORD/ZA**
PIXMA MP780	**H12-4585**	**230V AT/CH/DE**
PIXMA MP780	**H12-4586**	**230V WEST**
PIXMA MP780	**H12-4587**	**120V CND/LTN**
PIXMA MP780	**H12-4588**	**230V AUS**
PIXMA MP780	**H12-4589**	**230V AE**
PIXMA MP780	**H12-4597**	**230V CHN**

HY8-13A3-000

COPYRIGHT 2004 CANON INC. CANON PIXMA MP750/780 NOV. 2004

Scope

This manual has been issued by Canon Inc., to provide the service technicians of this product with the information necessary for qualified persons to learn technical theory, installation, maintenance, and repair of products. The manual covers information applicable in all regions where the product is sold. For this reason, it may contain information that is not applicable to your region.

Revision

This manual could include technical inaccuracies or typographical errors due to improvements or changes made to the product. When changes are made to the contents of the manual, Canon will release technical information when necessary. When substantial changes are made to the contents of the manual, Canon will issue a revised edition.

The following do not apply if they do not conform to the laws and regulations of the region where the manual or product is used:

Trademarks

Product and brand names appearing in this manual are registered trademarks or trademarks of the respective holders.

Copyright

All rights reserved. No parts of this manual may be reproduced in any form or by any means or translated into another language without the written permission of Canon Inc., except in the case of internal business use.

Copyright © 2004 by Canon Inc.

CANON INC.
Inkjet MFP Quality Assurance Div.
5-1 Hakusan 7-Chome, Toride-city, Ibaraki 302-8501, Japan

I. MANUAL OUTLINE

This manual consists of the following three parts to provide information necessary to service the PIXMA MP750/MP780:

Part 1: Maintenance

Information on maintenance and troubleshooting of the PIXMA MP750/MP780

Part 2: Technical Reference

New technology and technical information such as FAQ's (Frequently Asked Questions) of the PIXMA MP750/MP780

Part 3: Appendix

Block diagrams and pin layouts of the PIXMA MP750/MP780

Reference:

This manual does not provide sufficient information for disassembly and reassembly procedures. Refer to the graphics in the separate Parts Catalog.

II. TABLE OF CONTENTS

Part 1: MAINTENANCE

1 - 1 1. MAINTENANCE
1 - 1 1-1. Adjustment, Periodic Maintenance, Periodic Replacement Parts, and Replacement Consumables by Service Engineer
1 - 3 1-2. Customer Maintenance
1 - 4 1-3. Product Life
1 - 4 1-4. Special Tools
1 - 5 1-5. Serial Number Location
1 - 6 2. LIST OF ERROR DISPLAY / INDICATION
1 - 6 2-1. Users Error Messege
1 - 9 2-2. Users Error Code
1 - 9 2-3. Service Call Errors
1 - 14 2-4. New Error Codes and Recovery Methods
1 - 16 2-5. Warnings
1 - 17 2-6. Troubleshooting by Symptom
1 - 22 2-7 Processing Communication Problems (MP780 only)
1 - 22 2-7-1 Initial Identification of Problems
1 - 24 2-7-2 Procedures for Processing Communication Problems
1 - 25 2-7-3 Procedures for Processing Communication Problems with Canon Facsimile.
1 - 26 2-7-4 Procedures for Processing Communication Problems with other Manufacturer's Facsimiles.
1 - 27 3. REPAIR
1 - 27 3-1. Notes on Service Part Replacement (and Disassembling / Reassembling)
1 - 30 3-2. Special Notes on Repair Servicing
1 - 30 3-2-1 Flexible Cable and Harness Wiring, Connection
1 - 33 3-3. Adjustment / Settings
1 - 33 3-3-1 Paper Feed Motor Adjustment
1 - 33 3-3-2 Gear Phase Adjustment
1 - 35 3-3-3 Lift Cam Shaft Ass’y Adjustment
1 - 36 3-3-4 Solenoid Cam Spring Location
1 - 36 3-3-5 Carriage Shaft Clip Location
1 - 37 3-3-6 White Sheet Location
1 - 39 3-3-7 Grease Application
1 - 41 3-3-8 Waste Ink Counter Setting
1 - 41 3-4. User Data Flow
1 - 46 3-5. Service Switches
1 - 46 3-5-1 Hardware Switches
1 - 46 3-5-2 Service Data Setting
1 - 47 3-5-3 Service Data Registration / Setting Method
1 - 48 3-5-4 Service Data Flowchart
1 - 54 3-5-5 Explanation of service data
1 - 55 3-5-6 New SSSWs / parameters added to this model
1 - 60 3-5-7 SSSW Default Setting
1 - 78 3-6. Test Mode / Factory Mode
1 - 78 3-6-1 Test Mode / Factory Mode Overview

1 - 79 3-6-2 Test Mode Menu
1 - 80 3-6-3 Factory Mode
1 - 81 3-6-4 Operation Panel Test
1 - 83 3-6-5 Print Test
1 - 85 3-6-6 CD-R Calibration (230V only)
1 - 85 3-7. Upgrading the version of SPCNT Flash ROM
1 - 86 3-8. Verification Items
1 - 86 3-8-1 Users Report Service Test Print
1 - 87 3-8-2 Service EEPROM Information Print
1 - 88 3-8-3 System Data List (MP780 only)
1 - 95 3-8-4 System Dump List (MP780 only)
1 - 99 3-8-5 Service Activity Report (sending/receiving) (MP780only)
1 - 101 3-8-6 EEPROM Information Print
1 - 102 4. Cleaning Your Machine
1 - 102 4-1 Caution
1 - 102 4-2 Cleaning the Exterior
1 - 102 4-3 Cleaning the Scan Area
1 - 103 4-4 Cleaning the Interior
1 - 103 4-5 Cleaning the Feeder Cover
1 - 104 4-6 Cleaning the Rubber Sheet / Paper Feed Rollor / Separate Rollor
1 - 104 4-7 Cleaning the Paper Feed Rollor
1 - 105 4-8 Cleaning the Bottom Plate
1 - 106 5. Transportation

Part 2: TECHNICAL REFERENCE

2 - 1 1. New Technologies
2 - 3 2. Cleaning Mode and Amount of Ink Purged
2 - 5 3. Print Mode
2 - 9 4. FAQ (Problems Specific to the MP750/MP780 and Corrective Actions)

Part 3: APPENDIX

3 - 1 1. Wiring Diagram
3 - 2 2. Circuit Diagram
3 - 3 2-1 NCU Circuit Diagram1
3 - 4 2-2 NCU Circuit Diagram2
3 - 5 2-3 Relay Circuit Diagram
3 - 6 3. Specification

Part 1

Maintenance

1. MAINTENANCE

1-1 Adjustment, Periodic Maintenance, Periodic Replacement Parts, and Replacement Consumables by Service Engineer

(1) Adjustment

Adjustment	Timing	Purpose	Tool	Approx time
ALL CLEAR (EEPROM initializ ation) * 1	At SPCNT BOARD ASS'Y replacement	To initializ e settings other than the following -1-touch speed dialing (MP780 only) -Service/User soft SW (MP780 only) -Tx/Rx infomation (MP780 only) -Various counters -TYPE Setting	None To initializ e the settings, select # 8 CLEAR–ALL in the service mode	1 min
TYPE settings (EEPROM settings) * 1	-At SPCNT BOARD ASS'Y replacement -At excecuting All clear	-To set the type -To set the destination	None Select # 5 TYPE in the service mode Power SW OFF/ON* 1	1 min
Waste ink counter resetting (EEPROM settings)	At bottom case unit replacement At ink absorber INK ABSORBER (HY7-2885/2886/2887/2888/2889/2890/2891/2953)	To reset the waste ink counter.	None Select # 7 PRINTER in the service mode, and input "0" at # 5 INK ABS CAPA.	1min
Waste ink counter setting (EEPROM initializ ation)	At SPCNT BOARD ASS'Y replacement	Waste ink counter setting	None Print out the EEPROM information, and select # 7 PRINTER in the service mode. Then, register at # 5 INK ABS CAPA.	1 imn
CD-R sensor / automatic print head alignment sensor correction (EEPROM settings) (230V only)	At SPCNT BOARD ASS'Y replacement At carriage unit replacement	To correct the CD-R and automatic print head alignment sensor.	None. (Correction performed through FACTORY MODE-[2] PRI NTER-SHUK KEN at the same time as printing.)	1 min

Adjustment	Timing	Purpose	Tool	Approx time
Print head alignment	- At print head replacement - At SPCNT BOARD ASS'Y replacement	To ensure accurate dot placement.	None.(Main body buttons) Computer (settings via the printer driver)	2 min
Paper feed motor position adjustment* * 2	-At paper feed motor unit replacement	To adjust the belt tension. (Position the paper feed motor so that the belt is stretched tight.)	None For the adjustment, refer to [3-3 Adjustment/Settings (1) PAPER FEED MOTOR Installation Adjustment.	2 min
Grease application	-At carriage unit replacement -At chassis' upper gear replacement -At LIFT CAM SHAFT replacement	-To maintain sliding properties of the carriage, carriage shaft, and shaft lift. -To protect the chassis' upper gear. -To LIFT CAM SHAFT replacement	-FLOIL KG-107A -MOLYKOTE HP300	1 min

Note: DO NOT loosen the red screws on both sides of the main chassis, securing the carriage shaft positioning.

* 1: When SPCNT BOARD ASS'Y isreplaced, be sure to select the settings of [# 8CLEAR] -[ALL] and [# 5TYPE] in Service Mode, and turn the power OFF/ON with the Power button (Software Power: OFF/ON). DO NOT turn the power OFF/ON by removing and inserting the power code (Hardware Power: OFF/ON). In this case, data may not be written correctly.

* 2: Red screws of paper feed motor
The red screws securing the paper feed motor may be loosened only at replacement of the paper feed motor unit.

(2) Periodic maintenance

Adjustment	Timing	Purpose	Tool	Approx. time
None				

(3) Periodic replacement parts

Adjustment	Timing	Purpose	Tool	Approx. time
None				

(4) Replacement consumables

Adjustment	Timing	Purpose	Tool	Approx. time
None				

1-2 Customer Maintenance

Adjustment	Timing	Purpose	Tool	Approx. time
Print head alignment	At print head replacement.	To ensure accurate dot placement.	None Main body buttons Computer (automatic settings via the printer driver)	3min
Print head cleaning	When print quality is not satisfying.	To improve noz z le conditions.	None Main body buttons Computer (settings via the printer driver)	1 min
Print head deep cleaning	When print quality is not satisfying, and not improved by print head cleaning.	To improve noz z le conditions.	None Computer (setting via the printer driver) .	2min
Ink tank replacement	When an ink tank becomes empty.(No ink error)	-	-	2min
Paper feed roller cleaning	When paper does not feed properly.	To clean the paper feed rollers.	None Main body buttons	2min
CD-R print position adjustment (230V only)	At CD-R printing, when necessary	To correct CD-R print position.	None Computer (application software)	2min
Bottom plate cleaning	When the back side of the paper is smeared	To clean the platen ribs.	None Computer (application software)	1min

1-3 Product Life

(1) Main body

Specified print volume (a), (b), or the years of use (c), whichever comes first.

(a) Scanning Section: 15,000 pages

(b) Printing Section: 18,000 pages

		Copy	Print	FAX
Bk	1,500 character pattern + Post card Address printing	3,240 pages (MP780) 3,420 pages (MP750)	3,780 pages (MP780) 3,960 pages (MP750)	-
	1,500 character pattern	-	-	360 pages (MP780)
Color	A4, 7.5% duty per color pattern	2,520 pages	2,880 pages	-
	A4, photo, borderless printing	180 pages	360 pages	-
	L, photo, borderless printing	1,080 pages	1,980 pages	-
	Postcard, photo, borderless printing	360 pages	1,260 pages	-

(c) Years of use

5 years of use

(2) Ink tank

BCI-3eBK:	900 pages	(J EIDA STD patternJ 1, plain paper standerd mode)
	740 pages	(Black 1,500 character pattern, plain paper / standard mode)
	1,300 pages	(ISO J IS-SCID No. 5 / plain paper / standard mode)
BCI-6C:	550 pages	(ISO J IS-SCID No. 5 / plain paper / standard mode)
BCI-6M:	430 pages	(ISO J IS-SCID No. 5 / plain paper / standard mode)
BCI-6Y:	360 pages	(ISO J IS-SCID No. 5 / plain paper / standard mode)
BCI-6BK:	2,000 pages	(ISO J IS-SCID No. 5 / plain paper / standard mode)

1-4 Special Tools

Name	Tool No.	Application	Remarks
MOLYKOTE HP300	CK-8012-000	To be applied to the chassis' upper gear, and to the sliding portion of the shaft lift.	New
FLOIL KG-107A	QY9-0057-000	To be applied to the sliding portion of the carriage and the bearing portion of the carriage shaft.	In common with other models.

1-5 Serial Number Label Location

On the right side of the backside in the bottom case (close to the rating plate)

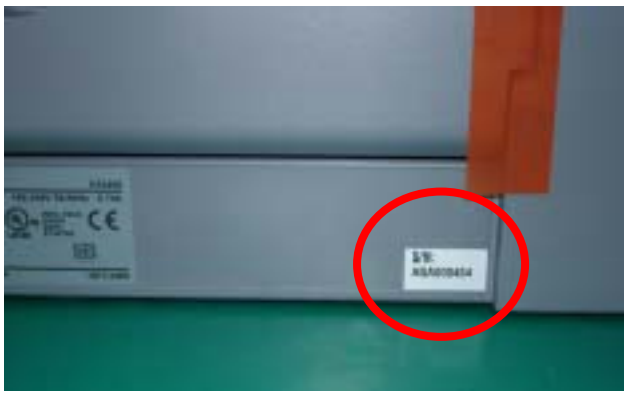


Figure1-1 Serial Number Label Location

2. LIST OF ERROR DISPLAY / INDICATION

User error messages

Look for the applicable error message and execute the appropriate countermeasures.

Error Codes

As for the causes and countermeasures, only the error codes that are newly incorporated in the unit remedies unique to the product are included in New Error Codes and Recovery Methods. For the causes and countermeasures of other error codes, refer to the separate G3/G4 Facsimile Error Code List (Rev. 2).

Service error code output

When service data # 1 SSSW SW01 Bit0 is set to “1”,the following service error codes are displayed when an error occurs.

2-1 User’s error messege

"CARTRIDGE JAMMED"

Printing position correction failed

Cause: Carriage movement prevented by one of the following.
Damaged shaft.
Parts deformed. (Carriage or guide frame)
Insufficient grease.

Solution: Replace the shaft.
Replace the deformed parts.
Apply more grease.

Cause: Bi-directional print displacement correction failed because the carriage motor is out of step, or some similar reason.

Solution: Replace the carriage motor.

Home position error

Cause1: Tried to stop the carriage unit that has been moving or to move the carriage unit at a pouse by force.

Solution1: Do not touch the carriage unit other than cartridge replacement position.

Cause2: Foreign body in carriage section.

Solution2: Open flatbed ass’y and remove the foreign body.

Cause3: Loose carriage belt.

Solution3: Replace carriage unit

Cause4: Carriage motor does not work.

Solution4 (1) Switch power OFF/ON.
(2) Replace carriage motor.

Cause5: The position of the carriage cannot be detected (due to smears on the carriage encoder film or SPCNT board failure).

Solution5: (1) Switch power off/on.
(2) Wipe the carriage encoder film with a cloth soaked with alcohol.
(3) Replace the carriage encoder film.
(4) Replace the SPCNT board.

Note:

This error message means the same as service error codes # # 338 and # # 340. When this error occurs in this model, it is not treated as a service error, but as a user error, and the error message is displayed.

"COVER OPEN"

Cause: You opened the scanning unit (printer cover) during an operation.

Solution: Close the scanning unit (printer cover).

Cause: Damaged scanner open arm ass'y, damaged scanner sensor arm, or SPCNT board ass'y failure.

Solution: Replace the scanner open arm ass'y, replace the scanner sensor arm, or replace the SPCNT board ass'y.

"CHECK PRINTER (PRESS [OK])" (##334 - ##336, ##343, ##345, ##346, ##352, ##356 - ##362)

Cause: The carriage unit does not move due to a foreign body in the carriage section.

Solution: Open flatbed ass'y and remove the foreign body. If there is a paper jam, clear the paper jam.

Cause: The printer's internal unit has malfunctioned.

Solution: Reinstall the BJ cartridge.
Turn the power off and on.
Check the service error code and refer to an appropriate solution.

Cause: The waste ink tank (absorber) is nearly full.

Solution: Replace the waste ink tank (absorber).

Note:

When replacing the waste ink absorber, you need to reset the waste ink volume counter. [Refer to 3-3 Adjustment/Settings (6) Service mode.]

"MEMORY FULL"

Cause: The machine's memory is full because you tried to copy a very detailed document.

Solution: Divide the document and copy each part separately.

Cause: The machine's memory is full because it has received too many documents in the memory receiving mode. (MP780 only)

Solution: Print out any documents, which are stored in memory. Then start the operation again. If the memory contains any documents you do not need, delete them.

"MEMORY CLEARED (PRESS [OK])"

Cause: After receiving data in the memory receiving mode, the power is off due to a service interruption, etc., and then the image data received in the memory receiving mode is cleared.

Solution: Press [OK] to go back to the standby status.

Memo:

Until you press [OK] button, the machine displays this message continuously and you cannot perform any operations. The memory clear list of the cleared image data is not displayed in this machine. For the other party information, confirm in the communication management report.

2-2 User error code

The error codes that have newly been added starting with the product are identified by the notation "*new*" those error codes for which remedies unique to the product are offered are identified by the notation "UNQ (UNIQUE)."

No.	Tx or Rx	Definition	Remarks
# 001	TX	Document has jammed	
# 003	TX/RX	Document is too long, or page time-over	
# 005	TX/RX	Initial identification (T0/T1) time-over	
# 009	RX	Recording paper has jammed or the recording paper has run out	
# 011	RX	Polling reception error	
# 012	TX	The other party has run out of recording paper	
# 018	TX/RX	Auto dialing transmission error	
# 021	RX	The other party has rejected the machine during polling reception	
# 022	TX	Call fails	
# 037	RX	Memory has overflowed when receiving images	
# 085	TX	Other party does not support ITU-T Color Faxing	
# 995	TX/RX	Memory Communication reservation cancellation	

2-3 Service Call Errors

No.	Tx or Rx	Definition
# # 100	TX	The number allowed for retransmission of the procedure signal was exceeded during transmission
# # 101	TX/RX	The modem speed of the machine does not match that of the other party
# # 102	TX	Fallback is not possible
# # 103	RX	EOL cannot be detected for 5 sec (15 sec if CBT)
# # 104	TX	RTN or PIN has been received
# # 106	RX	The procedure signal cannot be received for 6 sec while in wait
# # 107	RX	The transmitting machine cannot be use fallback
# # 109	TX	After transmitting DCS, a signal other than DIS, DTC, FTT, CFR, and CRP was received, exceeding the permitted number of transmissions of the procedure signal

No.	Tx or Rx	Definition
# # 111	TX/RX	Memory error
# # 114	RX	RTN was transmitted
# # 200	RX	During image reception, a carrier is not detected for 5 sec
# # 201	TX/RX	DCN was received through a non-normal procedure
# # 204	TX	Receive DTC without Tx data
# # 220	TX/RX	System error (e.g., main program may have gone away)
# # 224	TX/RX	Fault occurred in the communication procedure signal
# # 226	TX/RX	Stack Pointer Not within RAM Range
# # 229	RX	The recording system became locked for 1 min
# # 232	TX	The IC used to control the encoder malfunctioned
# # 237	RX	The IC used to control the decoder malfunctioned
# # 238	RX	The unit used to control recording malfunctioned
# # 261	TX/RX	System error occurred between the modem and system control board
# # 280	TX	The number of re-transmissions of the procedure signal has been exceeded
# # 281	TX	The number of re-transmissions of the procedure signal has been exceeded
# # 282	TX	The number of re-transmissions of the procedure signal has been exceeded
# # 283	TX	The number of re-transmissions of the procedure signal has been exceeded
# # 284	TX	DCN has been received after transmission of TCF
# # 285	TX	DCN has been received after transmitting EOP
# # 286	TX	DCN has been received after transmitting EOM
# # 287	TX	DCN has been received after transmitting MPS
# # 288	TX	After transmitting EOP, a signal other than PIN, PIP, MCF, RTP, or RTN was received
# # 289	TX	After transmitting EOM, a signal other than PIN,PIP,MCF, RTP, or RTN was received
# # 290	TX	After transmitting MPS, a signal other than PIN,PIP,MCF, RTP, or RTN was received
# # 332	TX/RX	Printer control DRAM check error
# # 333	TX/RX	Printer control ROM check error
# # 334	TX/RX	Printer control EEPROM check error
# # 335	TX/RX	Data transmission error between the system control section and printer control section

No.	Tx or Rx	Definition
# # 336	TX/RX	BJ head abnormal temperature error
# # 337	RX	BJ head temperature sensor error
UNQ # # 341	TX/RX	Maintenance J et Waste Ink Tank Full
UNQ # # 342	TX/RX	Cleaning absorption waste ink capacity full
UNQ # # 343	TX/RX	Ink Detection Waste Ink Tank Full
# # 345	TX/RX	BJ cartridge head cleaning error
# # 346	TX/RX	Inside temperature error
NEW # # 352	RX	Printer control EEPROM head information error
NEW # # 355	RX	A motor to lift up for CD-R print is malfunctioned
NEW # # 356	TX/RX	ASF cam sensor error
NEW # # 357	TX/RX	ASF paper feed (AP) position error
NEW # # 358	TX/RX	USB Host VBUS overcurrent error
NEW # # 359	TX/RX	Paper feed position error
NEW # # 360	TX/RX	Paper feed cam sensor error
NEW # # 361	TX/RX	Valve sensor error
NEW # # 362	TX/RX	Motor driver malfunctioned error
# # 670	TX	In V.8 late start, the V.8 ability was detected in DIS from the other party and, in response, CI was transmitted; however, the procedure failed to advance, causing a T1 time-over condition
# # 671	RX	In V.8 call arrives, the procedure fails to advance to phase 2 after CM detection, causing a T1 time-over condition
# # 672	TX	In V.34 transmission, the procedure fails to move from phase 2 to phase 3 and later, causing a T1 time-over condition
# # 673	RX	In V.34 reception, the procedure fails to move from phase 2 to phase 3 and later, causing a T1 time-over condition
# # 674	TX	In V.34 transmission, the procedure fails to move from phase 3 or phase 4 to a control channel or later, causing a T1 time-over condition
# # 675	RX	In V.34 reception, the procedure fails to move from phase 3 or phase 4 to a control channel or later, causing a T1 time-over condition

No.	Tx/Rx	Definition
# # 750	TX	In ECM transmission, no significant signal can be received after transmission of PPS-NULL, and the allowed number of procedure signal re-transmissions was exceeded
# # 752	TX	In ECM transmission, DCN was received after transmission of PPS-NULL
# # 753	TX	In ECM transmission, the allowed number of procedure signal re-transmissions was exceeded or a T5 time-over (60 sec) condition occurred after transmission of PPS-NULL
# # 754	TX	In ECM transmission, the allowed number of procedure signal re-transmissions was exceeded after transmission of PPS-NULL
# # 755	TX	In ECM transmission, no significant signal can be received after transmission of PPS-MPS, and the allowed number of procedure signal re-transmissions was exceeded
# # 757	TX	In ECM transmission, DCN was received after transmission of PPS-MPS
# # 758	TX	In ECM transmission, the allowed number of procedure signal re-transmissions was exceeded or a T5 time-over (60 sec) condition occurred after transmission of PPS-MPS
# # 759	TX	In ECM transmission, the allowed number of procedure signal re-transmissions was exceeded after transmission of PPS-MPS
# # 760	TX	In ECM transmission, no significant signal can be received after transmission of PPS-EOM, and the allowed number of procedure signal re-transmissions was exceeded
# # 762	TX	In ECM transmission, DCN was received after transmission of PPS-EOM
# # 763	TX	In ECM transmission, the allowed number of procedure signal re-transmissions was exceeded or a T1 time-over (60 sec) condition occurred after transmission of PPS-EOM
# # 764	TX	In ECM transmission, the allowed number of procedure signal re-transmissions was exceeded after transmission of PPS-EOM
# # 765	TX	In ECM transmission, no significant signal can be received after transmission of PPS-EOM, and the allowed number of procedure signal re-transmissions was exceeded
# # 767	TX	In ECM transmission, DCN was received after transmission of PPS-EOM

No.	Tx or Rx	Definition
# # 768	TX	In ECM transmission, the allowed number of procedure signal re-transmissions was exceeded or a T5 time-over (60 sec) condition occurred after transmission of PPS-EOM
# # 769	TX	In ECM transmission, the allowed number of procedure signal re-transmissions was exceeded after transmission of PPS-EOM
# # 770	TX	In ECM transmission, no significant signal can be received after transmission of EOR-NULL, and the allowed number of procedure signal re-transmissions was exceeded
# # 772	TX	In ECM transmission, DCN was received after transmission of EOR-NULL
# # 773	TX	In ECM transmission, the allowed number of procedure signal re-transmissions was exceeded or a T5 time-over (60 sec) condition occurred after transmission of EOR-NULL
# # 774	TX	In ECM transmission, ERR was received after transmission of EOR-NULL
# # 775	TX	In ECM transmission, no significant signal can be received after transmission of EOR-MPS, and the allowed number of procedure signal re-transmissions was exceeded
# # 777	TX	In ECM transmission, DCN was received after transmission of EOR-MPS
# # 778	TX	In ECM transmission, the allowed number of procedure signal e-transmissions was exceeded or a T5 time-over (60 sec) ondition occurred after transmission of EOR-MPS
# # 779	TX	In ECM transmission, ERR was received after transmission of OR-MPS
# # 780	TX	In ECM transmission, no significant signal can be received after transmission of EOR-EOM, and the allowed number of rocedure signal re-transmissions was exceeded
# # 782	TX	In ECM transmission, DCN was received after transmission of OR-EOM
# # 783	TX	In ECM transmission, the allowed number of procedure signal re-transmissions was exceeded or a T5 time-over (60 sec) condition occurred after transmission of EOR-EOM
# # 784	TX	In ECM transmission, ERR was received after transmission of OR-EOM

No.	Tx/Rx	Definition
# # 785	TX	In ECM transmission, no significant signal can be received after transmission of EOR-EOP, and the allowed number of procedure signal re-transmissions was exceeded
# # 787	TX	In ECM transmission, DCN was received after transmission of OR-EOP
# # 788	TX	In ECM transmission, the allowed number of procedure signal retransmissions was exceeded or a T5 time-over (60 sec) condition occurred after transmission of EOR-EOP
# # 789	TX	In ECM transmission, ERR was received after transmission of EOR-EOP
# # 790	RX	In ECM reception, ERR was transmitted after reception of EOR-Q
# # 791	TX/RX	During an ECM mode procedure, a signal other than a significant signal was received
# # 792	RX	In ECM reception, PPS-NULL between partial pages cannot be detected
# # 793	RX	In ECM reception, no effective frame was detected while signals were received at high speed, and a time-over condition occurred

2-4 New Error Codes and Recovery Methods

Those error codes that have been added starting with the product and those error codes for which remedies unique to the product are offered are shown together with causes and remedies, where applicable.

341 Maintenance jet waste ink capacity full

Solution: Replace the waste ink absorber as follows in the error occurs:

(1) Select [7] PRINTER TEST in the service mode and select [5] INK ABS CAPA under the [7] , then input “0”.

(2) Check to make sure that no image exist in memory; then, turn off the power, remove the appropriate parts, and replace the waste ink absorber.

342 Cleaning absorption waste ink capacity full

Solution: Replace the waste ink absorber as follows in the error occurs:

(1) Select [7] PRINTER TEST in the service mode and select [5] INK ABS CAPA under the [7] , then input “0”.

(2) Check to make sure that no image exist in memory; then, turn off the power, remove the appropriate parts, and replace the waste ink absorber.

343 Ink detection waste ink capacity full

Solution**:** Replace the waste ink absorber as follows in the error occurs:

(1) Select [7] PRINTER TEST in the service mode and select [5] INK ABS CAPA under the [7] , then input "0".

(2) Check to make sure that no image exist in memory; then, turn off the power, remove the appropriate parts, and replace the waste ink absorber.

352 Printer control EEPROM head information error

Cause: The EEPROM for printer control is faulty.

Solution: (1) Turn off and then on the power.

(2) Turn off the power, and replace the print head.

(3) Replace the SPCNT board.

NOTE:

In the presence of # # 352, the carriage unit will not move to print head replacement position even when the inner cover is opened. Moreover the carriage will not be locked in position even when the power is turned off. When replacing the print head, be sure to turn off the power, and draw out the carriage before replacement.

355 Lit-up motor for CD-R print malfunctioned

Cause: In performing a CD-R print, the motor to lift up the carriage shaft is malfunctioned.

Solution: (1) Turn off and then on the power.

(2) Check the connection from the SHEET FEED unit to the SPCNT board ass'y (J PM1).

(3) Replace the SHEET FEED ASS'Y.

(4) Replace the SPCNT board.

356 ASF cam sensor error

Cause: An error occurs at the ASF cam sensor in the ASF (Auto Sheet Feeder) unit.

Solution: (1) To reboot, press [OK] button or turn off and then on the power.

(2) Replace the SHEET FEED ASS'Y.

357 ASF paper feed (AP) position error

Cause: An error occurs at the AP positioning in the ASF (Auto Sheet Feeder) unit.

Solution: (1) To reboot, press [OK] button or turn off and then on the power.

(2) Replace the SHEET FEED ASS'Y.

(3) Replace the SPCNT board.

358 USB Host VBUS overcurrent error

Cause: Overcurrent is applied to the VBUS signal of USB.

Solution: (1) To reboot, press [OK] button or turn off and then on the power.

(2) Replace the SPCNT board.

359 Paper feed position error

Cause: An error occurs at the paper feed positioning.

Solution: (1) To reboot, press [OK] button or turn off and then on the power.

(2) Replace the SHEET FEED ASS'Y.

(3) Replace the SPCNT board.

360 Paper feed cam sensor error

Cause: An error occurs at the paper feed cam sensor.

Solution: (1) To reboot, press [OK] button or turn off and then on the power.

(2) Replace the SHEET FEED ASS'Y

(3) Replace the SPCNT board.

361 Valve sensor error

Cause: An error occurs at the valve sensor in the Purge unit.

Solution: (1) To reboot, press [OK] button or turn off and then on the power.

(2) Replace the SPCNT board.

362 Motor driver malfunctioned error

Cause: The motor driver is malfunctioned due to heating, etc.

Solution: (1) To reboot, press [OK] button or turn off and then on the power.

(2) Replace the SPCNT board.

2-5 Warnings

Main body (no LCD indications)

Displayed warning	Remarks
None	None

2-6 Troubleshooting by symptom

	Symptom	Solution	Remarks
General errors	**The unit does not power on.**	(1) Check the power cord connection. (2) Check the connection between the SPCNT board (J PSU1) and power supply unit. (3) Replace the power supply unit.	
	Nothing is displayed.	(1) Check the connection between the Operation panel unit and SPCNT board (J PANEL1). (2) Replace the SCANNER unit. (3) Replace the SPCNT board.	
	Part of the LCD panel does not display anything.	(1) If the test mode can be used, check for faulty dot in LCD display. (2) Check the connection between the Operation panel unit and SPCNT board (J PNL1). (3) Replace the SCANNER UNIT. (4) Replace the SPCNT board ass'y.	
	The keys do not work.	(1) Check the connection between the SCANNER UNIT and SPCNT board (J PNL1). (2) Replace the SCANNER UNIT. (3) Replace the SPCNT board.	
	No sound from the speaker (MP780 only)	(1) Check the connection of the speaker and SPCNT board (J SPK1). (2) Replace the speaker. (3) Replace the SPCNT board.	
Printing problems	**The paper is not feed properly. (The Paper feed motor does not run.)**	(1) Check the connection from the sheet feed unit to the SPCNT board assy (J PM1). (2) Replace the sheet feed unit. (3) Replace the SPCNT board ass'y.	

	Symptom	Solution	Remarks
Printing problems	**The paper is not picked up from the auto sheet feeder.**	(1) Check the foreign matter in the paper feed section. (2) Check the connection SHEET FEED UNIT to the SPCNT board ass'y (J PM1). (3) Replace the SHEET FEED UNIT. (4) Replace SPCNT board ass'y.	
	The carriage motor does not run.	(1) Check the connection from the SHEET FEED unit to the SPCNT board ass'y (J PM1). (2) Replace the SHEET FEED unit. (3) Replace the SPCNT board ass'y.	
	Carriage error **(The carriage comes into contact with the push-on plates at the left and right sides, resulting in noise.)**	(1) Check if grease adheres to the carriage encoder film. (2) Using lint-free paper impregnated with alcohol, wipe the carriage encoder film with care so as not to scratch the film. (3) If a lot of grease adheres to the carriage, replace the carriage board because grease might be spread to the sensor on the carriage board. (4) Replace the carriage encoder film.	
Printing Quality error	• **The printer does not at all.** • **Printing stops midway.** • **Certain colors are not printed.**	(1) Remove the print head and re-install it. (2) Carry out noz z le cleaning on the print head five times with the cleaning operation, than visually cheek the test print for non-discharge of ink from noz z le.*(ig. 1-2)* (3) Remove and reinstall the print head. (4) Replace the appropriate ink tank. (5) Replace the print head. (6) Replace the SPCNT board ass'y. (7) Replace the purge unit.	

	Symptom	Solution	Remarks
Printing Quality error	**Blotches appear** **Blank ink appear**	(1) Remove and reinstall the print head. (2) Carry out noz z le cleaning on the print head five times with the cleaning operation, than visually cheek the test print for non-discharge of ink from noz z le.*(ig. 1-1*) (3) Perform print head refreshing, and print out Noz z le check pattern. Visually check the test print for non-discharge of ink from noz z le.*(ig. 1-1*) (4) Replace the appropriate ink tank. (5) Replace the print head. (6) Check the connection of the carriage ribbon cable and the SPCNT board. (J HD1, J HD2) (7) Replace the carriage unit. (8) Replace the SPCNT board. (9) Replace the purge unit.	
Scanning problems	**The document is not fed. (The document feed motor does not run.)**	1) Check the connection from the document feed motor to the ADF board ass'y.. (2) Check the connection from the ADF board ass'y and SPCNT board ass'y (J ADF1). (3) Replace the document feed motor. (4) Replace the ADF board ass'y. (5) Replace the SPCNT board.	
	The document slips against the rollers. (Evaluation criteria: Check it visually. Stretched copy image.)	(1) Cleaning the ADF section's parts. See *this Chapter 4. Cleaning Your Machine* (2) Replace the ADF section's rollers.	

	Symptom	Solution	Remarks
Scanning problems	**The document does not separate.**	1) Check whether the document feed motor is driving all the rollers. (Check for any damaged gears or foreign matter stuck inside.) (2)) Cleaning the Separate Rollor and RubberSheet. See *Chapter 4. Cleaning your Machine.* (3) Replace the separation roller ass'y and Upper guide ass'y.	
	Faulty scanner unit's sensors (The placed document or transported document is not detected.)	1) Check for any faulty sensors while executing the copying operation and test mode. (2) Check the connection from Document sensor and Document edge sensor to the ADF board. (3) Check the connection from the ADF board to the sensor board sub PCB (J ADF1). (4) Check the connection from the sensor board (J ADF1) and SPCNT board. (5) Replace the Document sensor. (6) Replace the ADF board ass'y. (7) Replace the SPCNT board ass'y.	
The Scanning Image Is Abnormal	**Nothing is printed.**	(1) Check the connection between the contact sensor and SPCNT board (J CCD1). (2) Replace the SCANNER unit. (3) Replace the SPCNT board ass'y.	

	Symptom	Solution	Remarks
The Scanning Image Is Abnormal	**The image has vertical stripes.**	(1) Clean the Document glass. (2) Check the connection between the contact sensor and SPCNT board (J CCD1). (3) Replace the SCANNER unit. (4) Replace the SPCNT board ass'y.	
	The halftone image contains black dots.	(1) Clean the Document glass. (2) Check whether the document is not skewed. (3) Check the connection between the SCANNER unit and SPCNT board (J CCD1). (4) Replace the SCANNER unit. (5) Replace the SPCNT board ass'y.	
Faulty CD-R (MP780 only)	**The CD-R Tray is not recognized.**	(1) Remove the CD-R Tray, and place the CD-R Tray again. (2) Check the connection between the CARRIAGE UNIT and SPCNT board ASS'Y (J HD1, J HD2). (3) Replace the CARRIAGE UNIT. (4) Replace the SPCNT BOARD ASS'Y.	
Other	**(As-received failure) The display appers in English.**	Select the settings of [# 8CLEAR] -[ALL] and [# 5TYPE] (Type setting) in Service Mode, and turn the power OFF/ON with the power button (Software Power: OFF/ON).	

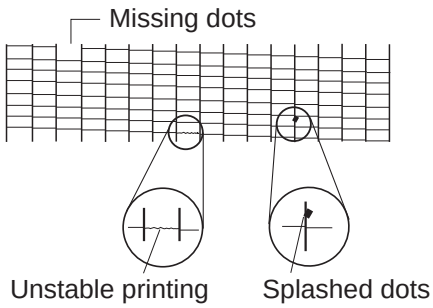


Figure1-2 Defective Pattern (Sample)

2-7 Processing Communication Problems (MP780 only)

2-7-1 Initial identification of problems

Since the facsimile must transmit picture information, a transmitter, a receiver and telephone lines are required for this purpose. Transmissions may cause problems if one or more of the there is poor.

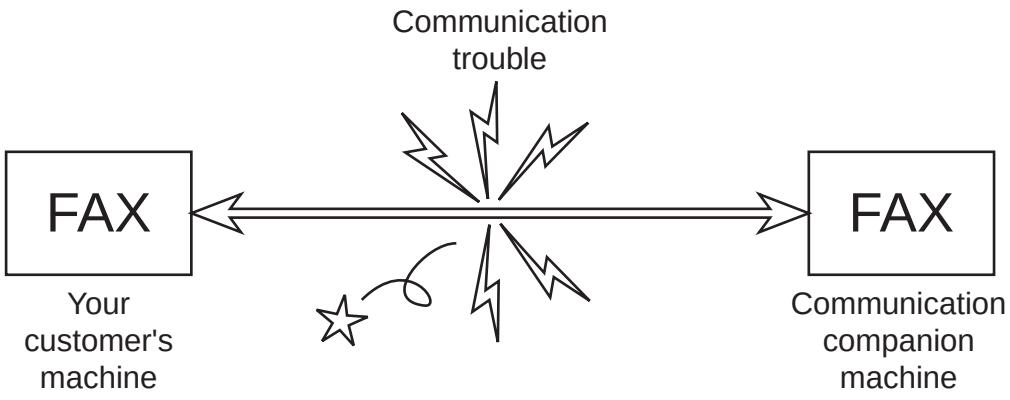


Figure1-3 Communication Trouble

To process communication problems, first of all, it is necessary to narrow down the cause of the problem. Thus, the procedures appearing below must be checked accordingly.

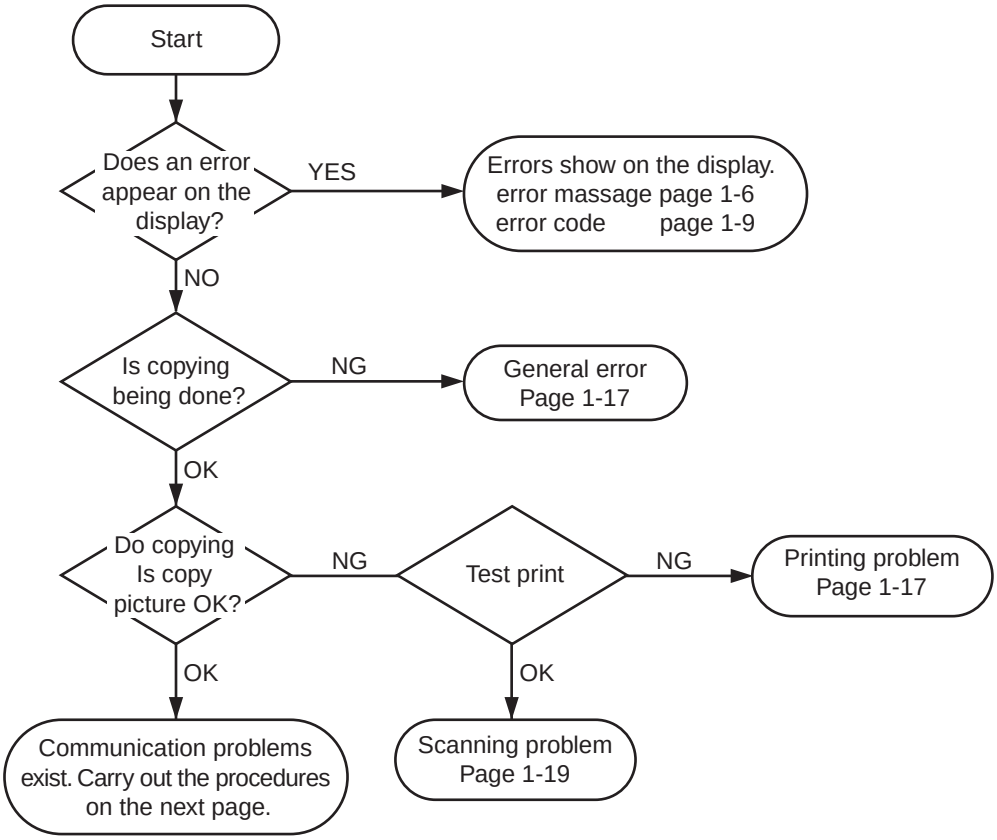


Figure 1-4 Procedures for Initial Identification of Trouble

2-7-2 Procedures for processing communication problems

If the problem proves to be communication trouble, deal with it according to the following procedures.

(1) Study the conditions at the time of trouble as closely as possible. Record or keep the items listed below.

a) Operations at the time of trouble.

Document number, transmission mode, error occurrence timing call set-up method (auto dialing etc.)

b) Sample of defective picture (When receiving)

c) LCD display at the time of trouble.

d) Communication management report at the time of trouble.

e) User's name, telephone number (to contact), Fax number, model name.

f) User's name, of the other party, telephone number (to contact), Fax number, model name, name of servicemen in charge.

g) Frequency of trouble and error code (# # 100 etc.).

h) Condition of the other party's facsimile:

Transmitted/received page number? Automatic or manual?

Error occurred? The receive condition? etc.

NOTE:

When visiting a user with a trouble report, a) can be known by outputting the error protocol data (or error dump), and g) can be known by outputting the total transaction report (or the system error data list).

(2) Test communication according to flowchart procedures appearing on the next page.

* Carry out the tests with the actual lines oneach item, verify the symptoms and record it.

* In the case of trouble with another manufacturer's facsimile, refer to the flowchart for troubles with other manufacture's.

(3) Finally, process over by judging systematically all the data.

NOTE:

If the other party's facsimile is that of another manufacturer and there is nothing wrong with your customer's machine, it is recommended that you ask your customer to contact the facsimile user of the other party, so that the other party's facsimile is checked by the dealer. " Call the service station" in the flowchart means that problems may occur with regard to the communication compatibility of facsimile, consult the matter with the staff in charge at the service station. To quicken the resolving of the problem, report the information listed in (1) above.

2-7-3 Procedures for processing communication problems with Canon facsimile.

The process for carrying out communications at three points as shown in the figure.

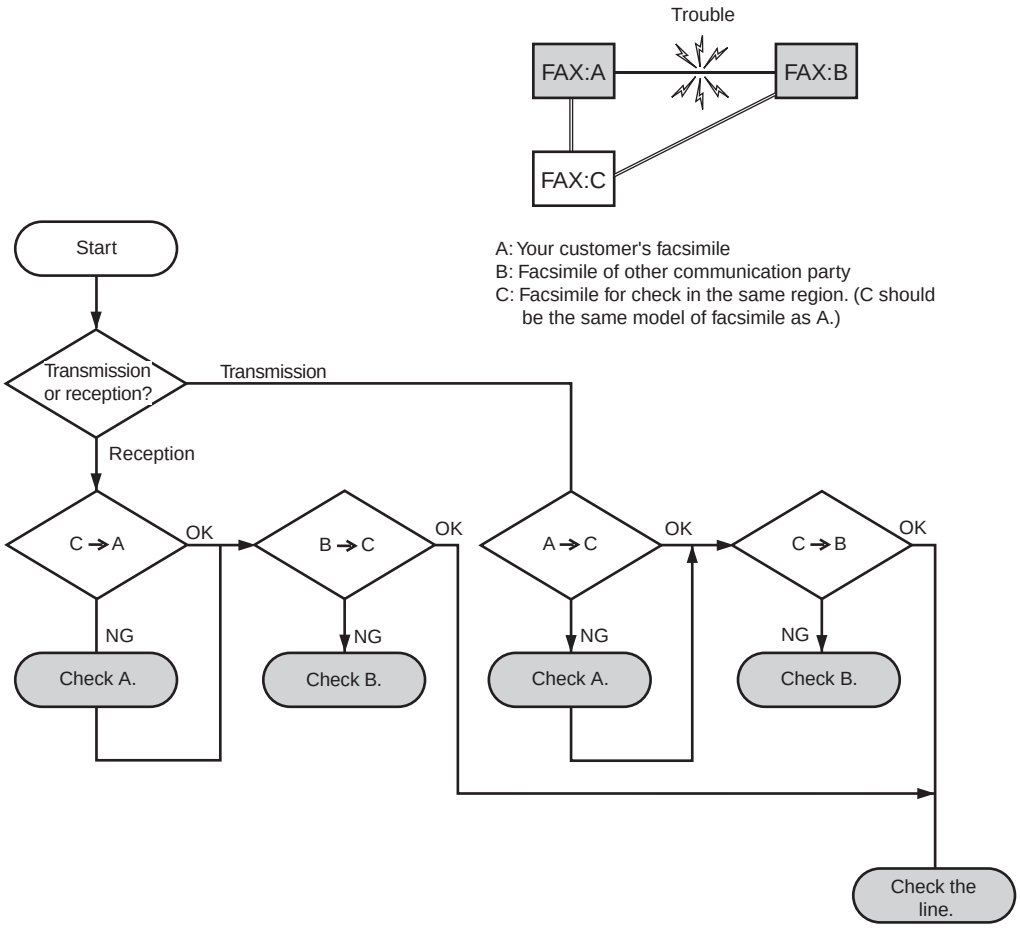


Figure 1-5 Flowchart for Processing Communication Troubles with Canon Facsimile

2-7-4 Procedures for processing communication problems with other manufacturer's facsimiles.

When problems occur with other manufacturer's facsimiles, make the user of the other party's facsimile call the serviceman in charge. Perform communication at the four points listed in the figure.

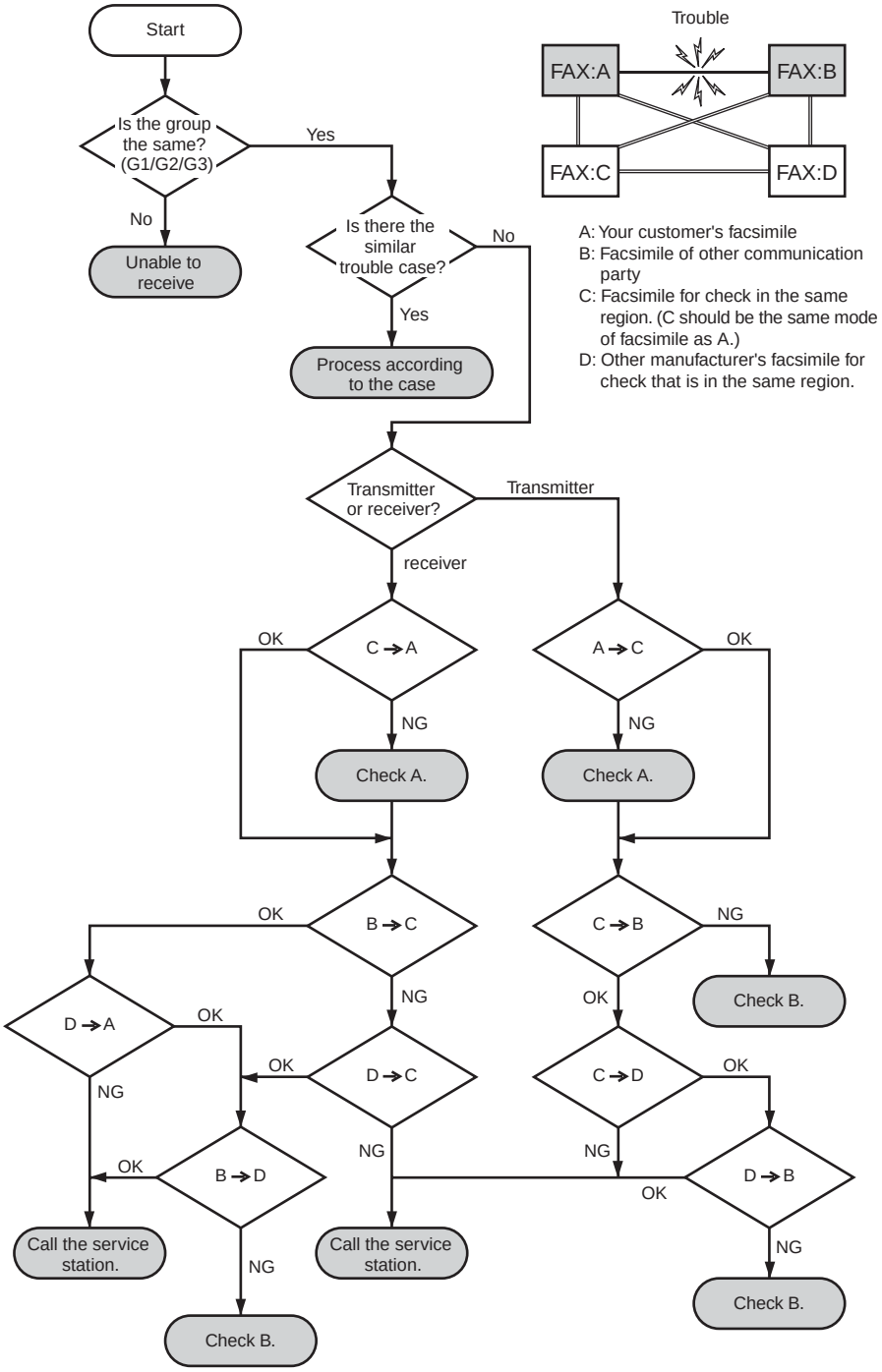


Figure 1-6 Flowchart for Processing Communication Troubles with other manufacturer's facsimile

3. REPAIR

3-1 Notes on Service Part Replacement (and Disassembling / Reassembling)

Service part	Notes on replacement* 1	Adjustment / settings	Operation check
SPCNT BOARD ASS'Y (MP750: HY7-2931 MP780: HY7-3082)	- Before removal of the SPCNT board ass'y, remove the power cord, and allow for approx. 1 minute (for discharge of capacitor's accumulated charges), to prevent damages to the SPCNT board ass'y. - Before replacement, check the waste ink amount (by service test print or EEPROM information print). -SYSTEM DATA LIST - The J P2 short plug (for voltage drop protection) is half connected. Remove the plug once, and insert it again for short-circuiting status. (MP780 only) [See Fig1-7]	After replacement: 1.Clear ALL * 2 (Initializ e the EEPROM.) 2.TYPE setting * 2 Power SW OFF/ON 3. Reset the waste ink counter. 4. Service data setting 5. CD-R sensor calibration [See 3-6 Test mode 3-6-5 CD-R Calibration] [See 3-6. Service SW, for details of 1 to 4] 6. Perform the print head alignment in the user mode.	- EEPROM information print - Service test print - SYSTEM DATA LIST - Copy - Sending and Receiving (MP780 only) - Printing via parallel or USB connection - Direct printing from a digital camera
INK ABSOBER (HY7-2885/2886/2887/ 2888/2889/2890/2891/ 2953)		After replacement: 1. Reset the waste ink counter. [See 3.3. Adjustment / Settings, 3-3-8 Waste ink counter setting]	- EEPROM information print
CARRIAGE UNIT (HY7-2862)	Apply grease to the sliding portions. [See 3-3. Adjustment / Settings, 3-3-7 Grease application.]	1. CD-R sensor calibration [See 3-6-5. CDR Calibration] 2. Perform the print head alignment in the user mode.	-Service test print (Confirm CD-R and automatic print head alignment sensor correction.)
PAPER FEED MOTOR (HY7-2912)	-The red screws securing the paper feed motor are allowed to be loosened. (DO NOT loosen any other red screws.)	1. Adjust the paper feed motor. [See 3-3. Adjustment / Settings, 3-3-1 Paper feed motor adjustment.]	

Service part	Notes on replacement* 1	Adjustment / settings* 2	Operation check
LIFT CAM SHAFT (HY7-2902)	- Grease application to the sliding portions [See 3-3. Adjustment / Settings, 3-3-7 Grease application.]	**After replacement:** 1. LIFT CAM SHAFT phase adjustment See 3-3. Adjustment / Settings, 3-3-3 LIFT CAM SHAFT.]	-Service test print
TIMING SLIT STRIP FILM (HY7-2863)	-Upon contact with the film, wipe the film with ethanol. - Confirm no grease is on the film. (Wipe off any grease thoroughly with ethanol.) - Do not bend the film	**After replacement:** 1. Perform the print head alignment in the user mode.	-Service test print
TIMING SLIT DISK FILM (HY7-3083)			
PRINT HEAD (QY6-0049)		**After replacement:** 1. Perform the print head alignment in the user mode.	-Service test print
PAPER EXIT TRAY UNIT (HY7-2907)	Align the left side of the tray with the T-part' angle of Solenoid Cam Gear to insert (after removing the tray, the angle returns to almost vertical by the force exerted by the spring). Then pull the tray open a little (approx. 30 – 60 degrees) and move it toward the left side to insert the other side of the shaft (see the photo in Figure 1-7).		
LEFT COVER (MP750: HY7-3079 MP780: HY7-2893)	Align the two claws of the bottom frame with the claws of the left cover (see the photo in Figure 1-8).		
RIGHT COVER (HY7-2923)	Align the three claws of the bottom frame with the claws of the right cover (see the photo in Figure 1-9).		

* 1: General notes:
  - Make sure that the flexible cables and wires in the harness are in the proper position and connected correctly.
  [See 3-2. Special Notes on Repair Servicing, 3-3-1 Flexible cable and harness wiring, connection, for details.]
  - Do not drop the ferrite core, which may cause damage.
  - Protect electrical parts from damage due to static electricity.
  - Before removing a unit, after removing the power cord, allow the printer to sit for approx. 1 minute (for capacitor discharging to protect the logic board ass'y from damages).
  - Do not touch the timing slit strip film and timing slit disk film. No grease or abrasion is allowed.
  - Protect the units from soiled with ink.
  - Protect the housing from scratches.
  - Exercise caution with the red screws, as follows:
    i. The red screws of the paper feed motor may be loosened only at replacement of the paper feed motor unit (DO NOT loosen them in other cases).
    ii. DO NOT loosen the red screws on both sides of the main chassis, securing the carriage shaft positioning (they are not adjustable in servicing).

* 2: When SPCNT BOARD ASS'Y is replaced, be sure to select the settings of [# 8CLEAR] -[ALL] and [# 5TYPE] in Service Mode, and turn the power OFF/ON with the Power button (Software Power: OFF/ON). DO NOT turn the power OFF/ON by removing and inserting the power code (Hardware Power: OFF/ON). In this case, data may not be written correctly.

To attach the PAPER EXIT TRAY UNIT, align the tray with the T-part of the Solenoid Cam Gear to insert. Then pull the tray open a little and move it toward the left side to insert the other side of the shaft.

Figure1-7 Solenoid Cam Gear

The following photos show the left and the right cover claws. Align them for assembling.

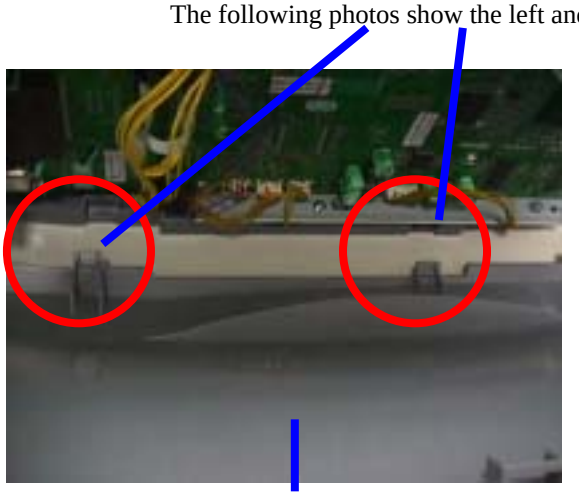
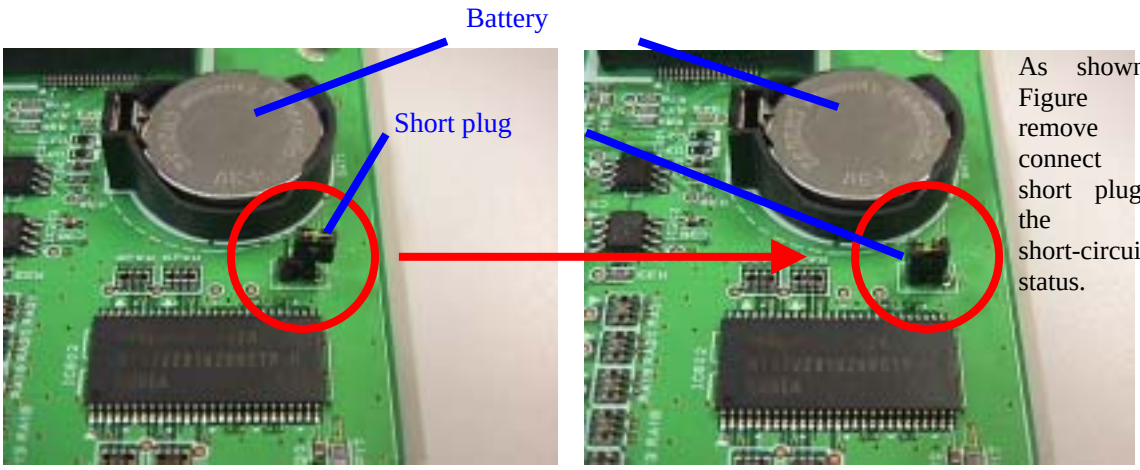


Figure1-8 LEFT COVER

Figure1-9 RIGHT COVER



As shown in Figure 1-10, remove and connect the short plug for the short-circuiting status.

(Open) (Short)

Figure 1-10 SPCNT Short Plug location (MP780 only)

3-2 Special Notes on Repair Servicing

3-2-1 Flexible cable and harness wiring, connection

Be careful of wiring of the flexible cables and harness. Improper wiring or connection may cause breakage of a line, leading to ignition or emission of smoke.

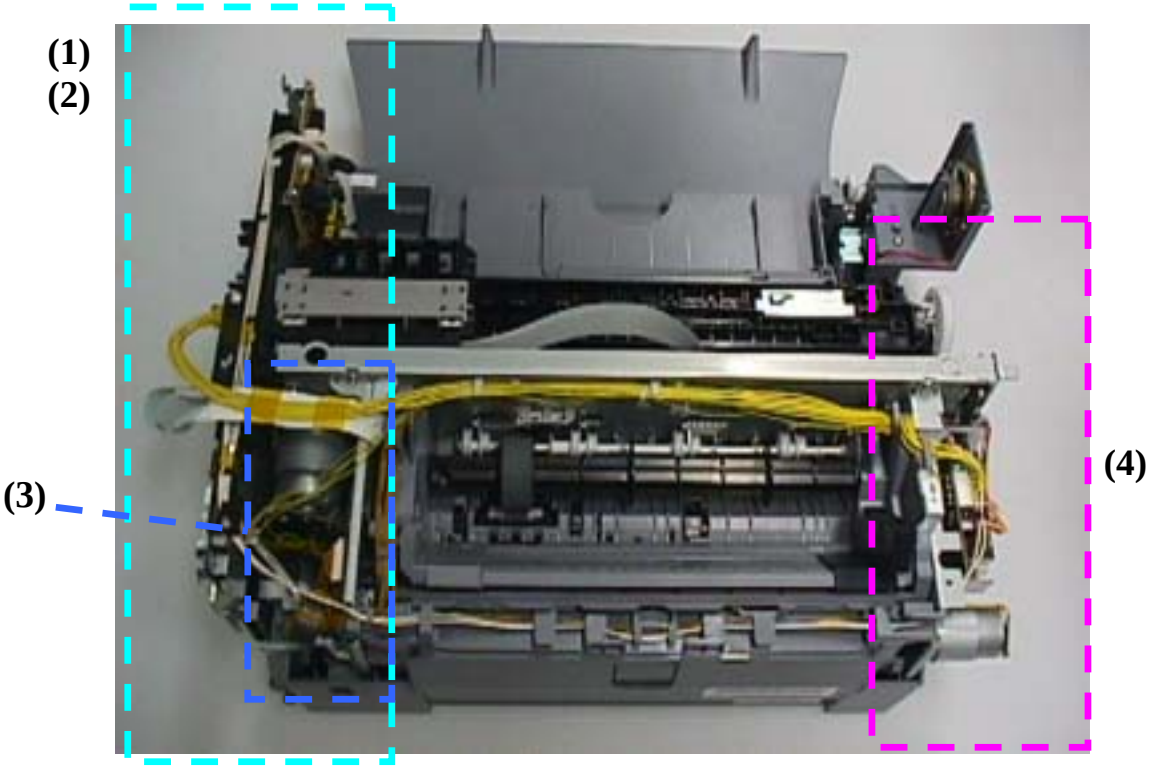


Figure 1-11 Flexible cable and harness wiring, connection

(1) Cable guide wiring

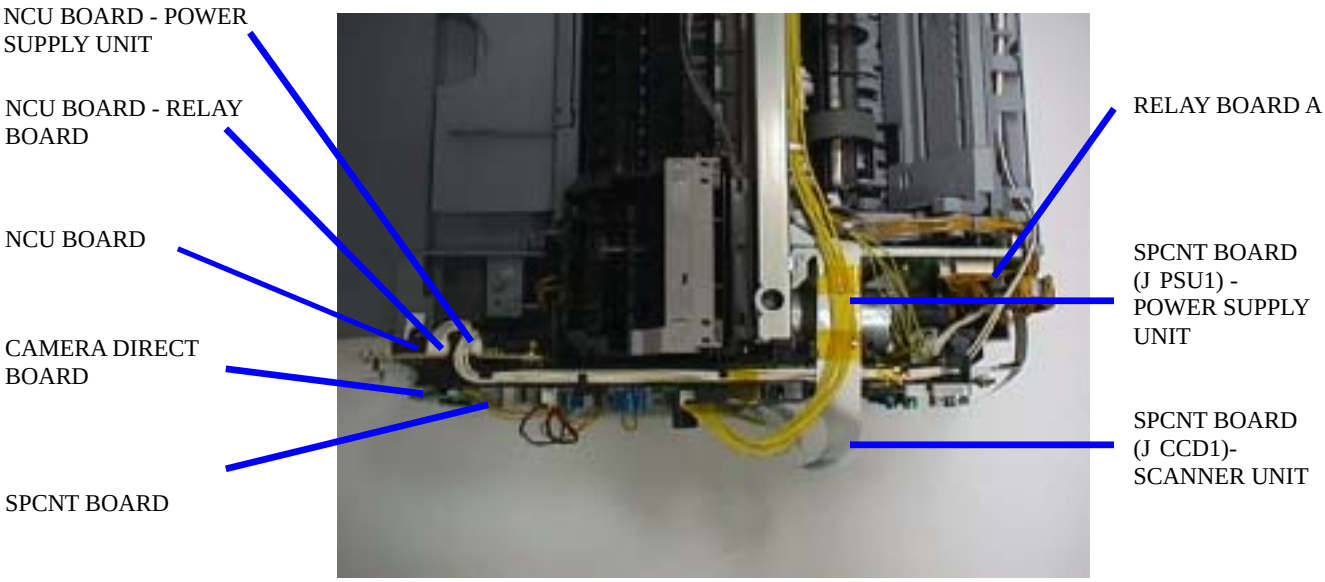


Figure 1-12 Cable Guide wiring

(2) SPCNT BOARD ASS'Y wiring

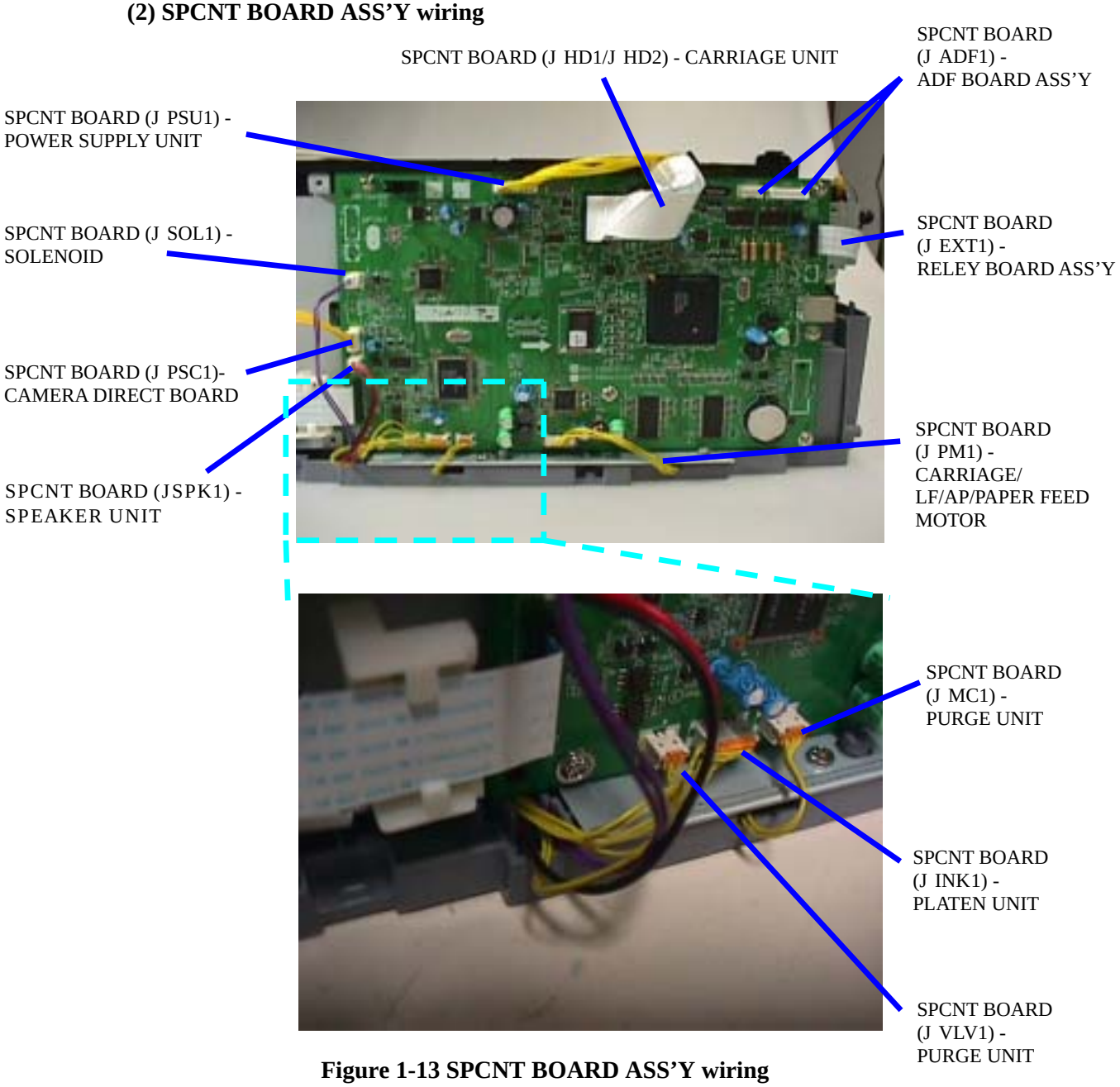


Figure 1-13 SPCNT BOARD ASS'Y wiring

(3) RELAY BOARD ASS'Y wiring

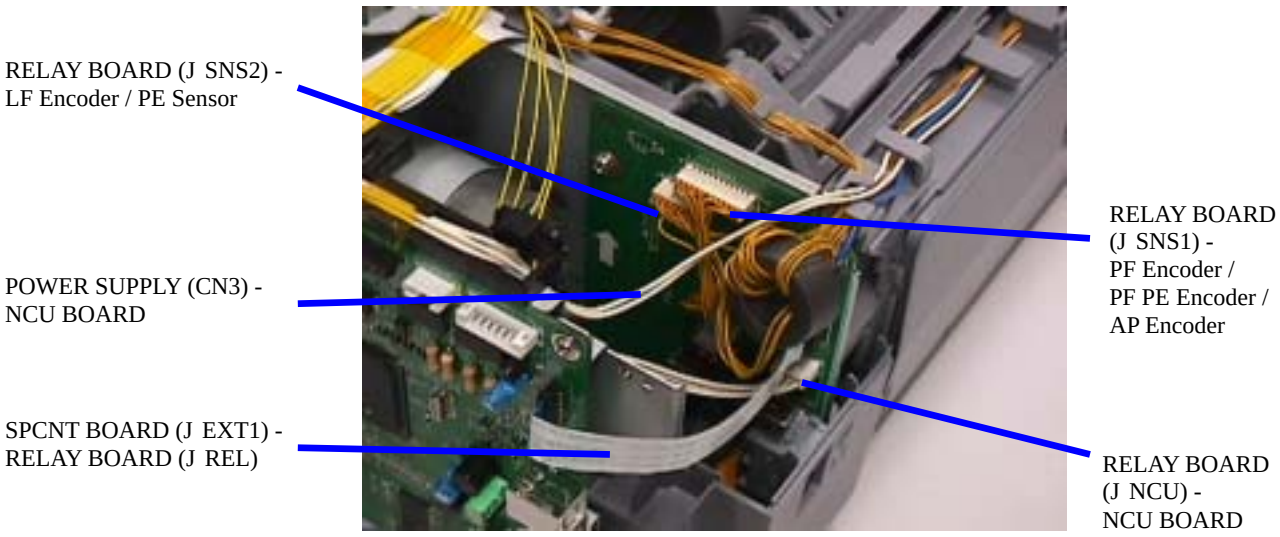


Figure 1-14 RELAY BOARD ASS'Y wiring

(4) POWER SUPPLY UNIT wiring

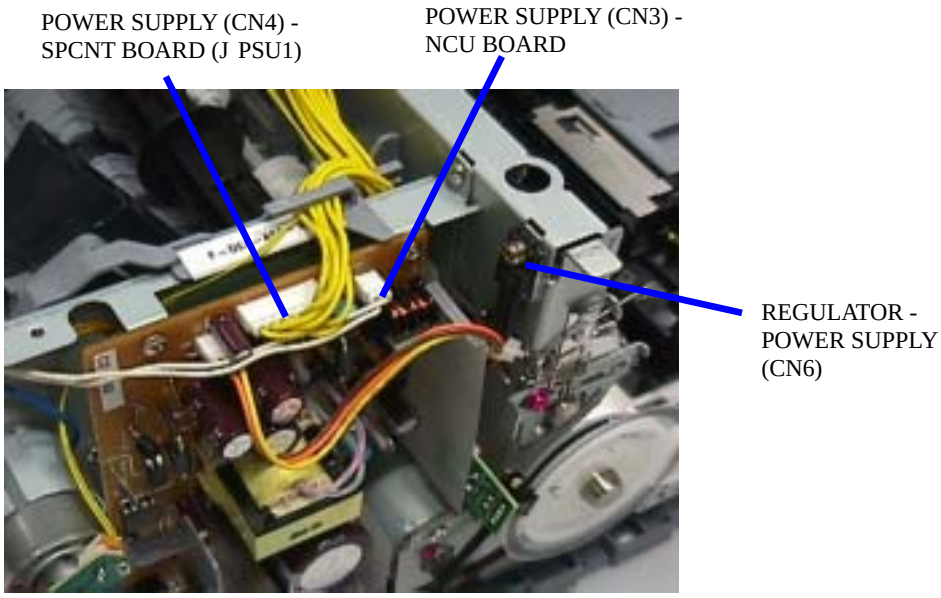


Figure 1-15 POWER SUPPLY UNIT wiring

3-3 Adjustment / Settings

3-3-1 PAPER FEED MOTOR Adjustment

Perform the following adjustments when the paper feed motor unit is replaced:

1) When attaching the motor, fasten the screws so that the belt is properly stretched (in the direction indicated by the blue arrow in the figure below).

2) After replacement, be sure to perform the service test print, and confirm that no strange noise or faulty print operation (due to dislocation of the belt or gear, or out-of-phase motor, etc.) occurs.

Red screws securing the PAPER FEED MOTOR

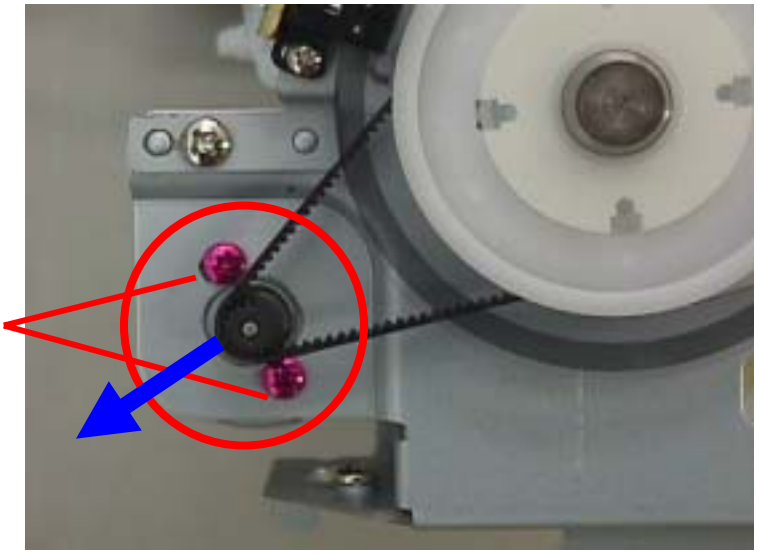


Figure 1-16 PAPER FEED MOTOR Adjustment

Note:

The red screws securing the paper feed motor may be loosened only at replacement of the paper feed motor unit. DO NOT loosen them in other cases.

3-3-2 CARRIAGE SHAFT Gear Adjustment

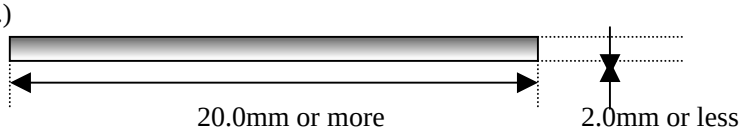
In installing a carriage shaft, the gear phase should be adjusted.

(1) Insert the metallic pin shown below to the hole in the PURGE UNIT (see the photo (a) below) (until it reaches the end).

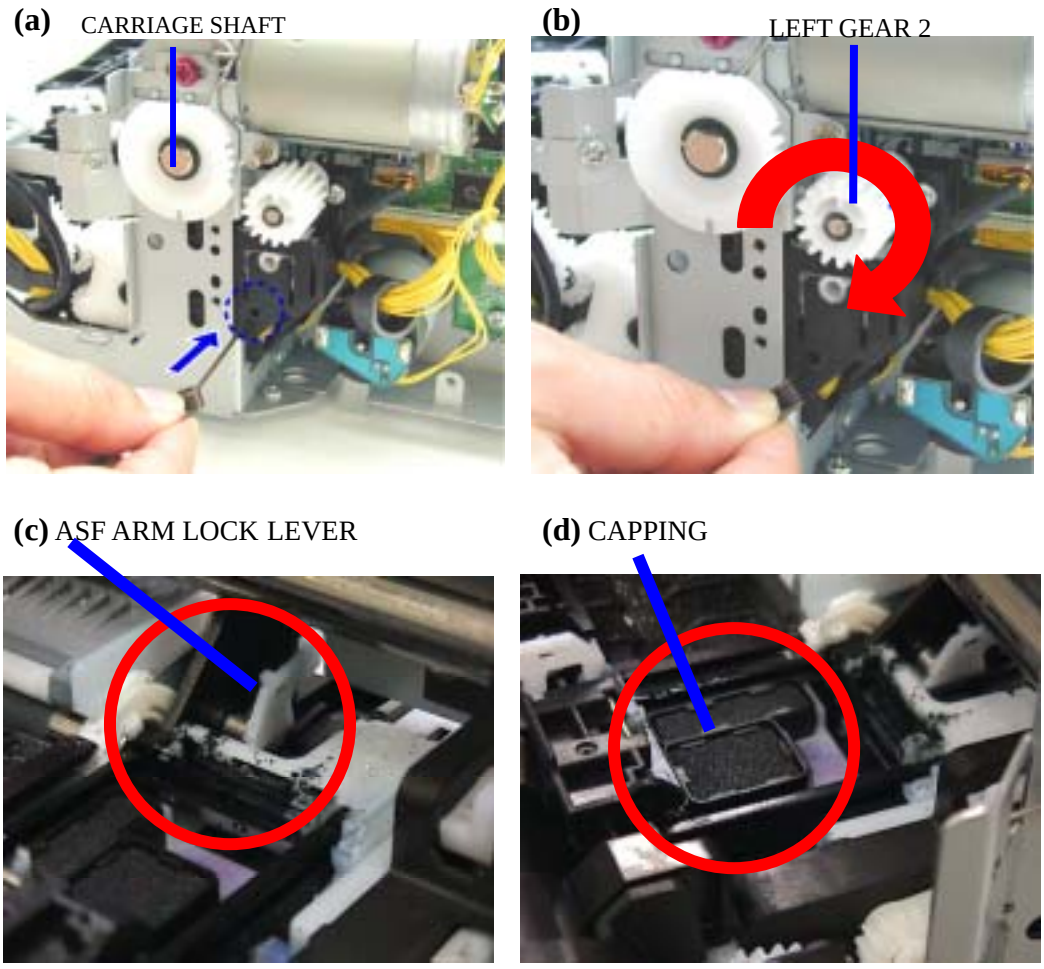
[Metallic pin]

- Diameter: 2.0 mm or less, and Length: 20.0 mm or more

(Use “CARRIAGE SHAFT L SPRING: HY7-2867”, or an unbended clip can be used in place of the pin.)



(2) With the metallic pin inserted, turn the LIFT GEAR 2 clockwise (in the direction indicated by the arrow in the photo (b) below) until it reaches the end. (Stop when it cannot turn farther any more.) Under the conditions above, confirm that the ASF ARM LOCK LEVER is located upward (see Photo (c)) and the capping section is located at the capping position (see Photo (d)).



(3) Install the LEFT GEAR 1 by aligning it on the cutout of the CR SHAFT CAM R.

Align the two parts so that both surfaces shown at the top are horiz ontal.
Or, adjust so that the part of the CR SHAFT CAM R shown at the bottom is just at the bottom.

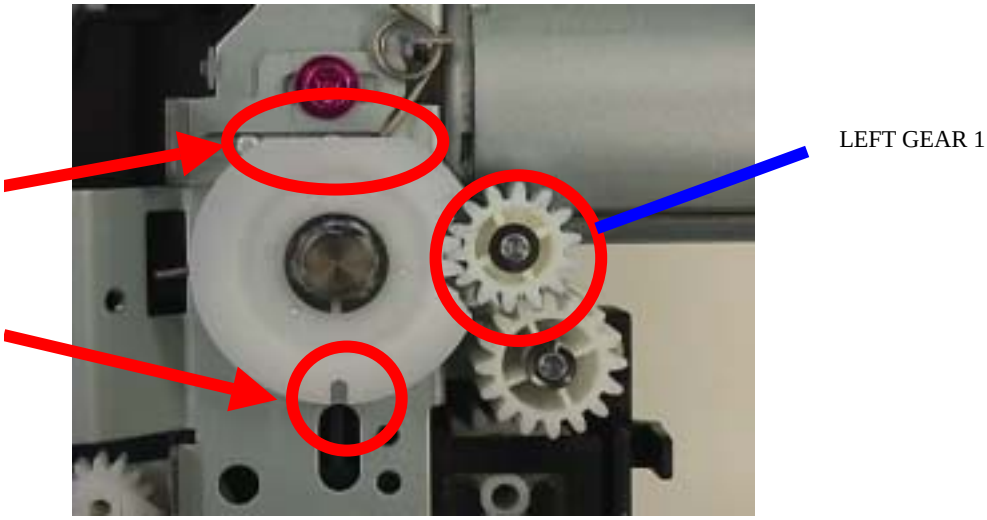


Figure 1-17 CARRIAGE SHAFT gear adjustment

3-3-3 Positioning in LIFT CAM SHAFT ASS'Y adjustment

(1) Remove the PRESSURE ROLLER SPRING from the hook of the chassis, and apply it to the gash of the LIFT CAM SHAFT ASS'Y.

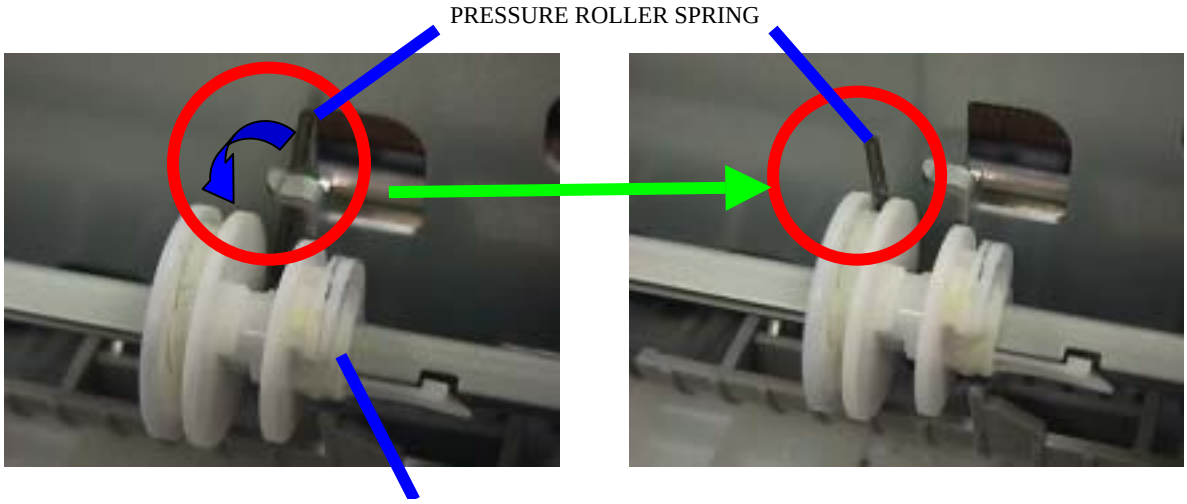


Figure 1-18 Positioning in LIFT CAM SHAFT ASS'Y adjustment 1

(2) Turn the gear of the LIFT CAM SHAFT ASS'Y in the direction indicated by the arrow "a" in the photo (clockwise) until it reaches the end.

(3) Turn the gear of the LIFT CAM SHAFT ASS'Y in the direction indicated by the arrow "b" in the photo below (counterclockwise) until it reaches the end.

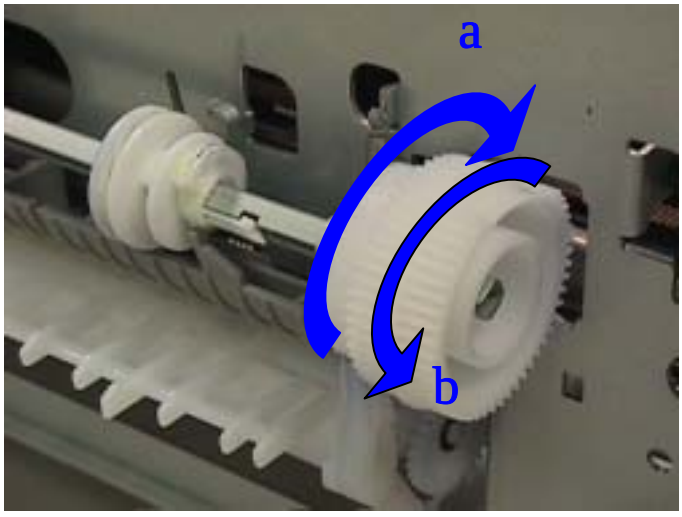


Figure1-19 Positioning in LIFT CAM SHAFT ASS'Y adjustment 2

3-3-4 SOLENOID CAM location

(1) Install the spring so that the Short end of the spring is at the top and the Long end of the spring is at the bottom. (The part has a protection against reverse installation.)

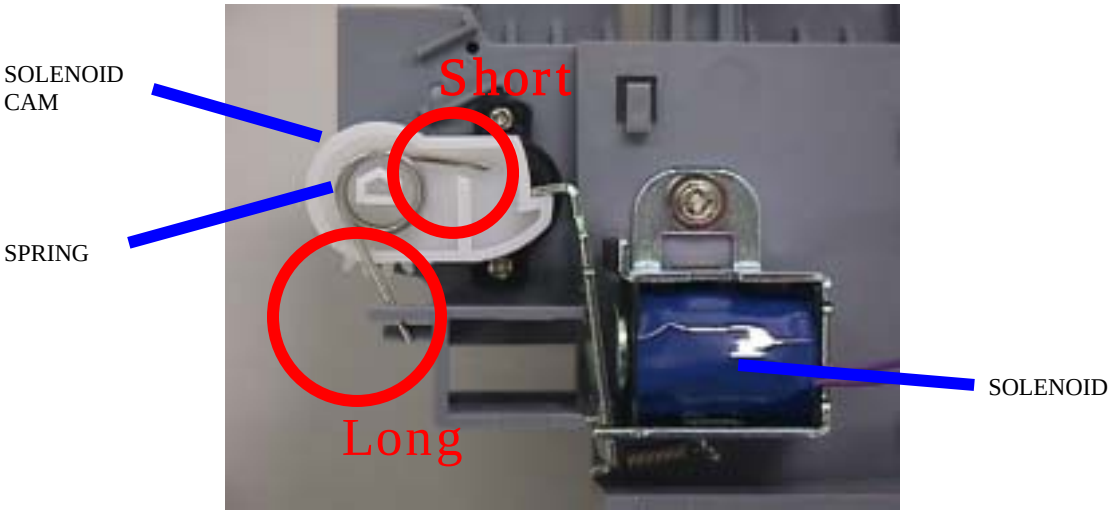


Figure 1-20 SOLENOID CAM spring location

3-3-5 CARRIAGE SHAFT CLIP location

(1) Adjust the ellipse area of CARRIAGE SHAFT CLIP and the edge of TIMING SLIT STRIP FILM

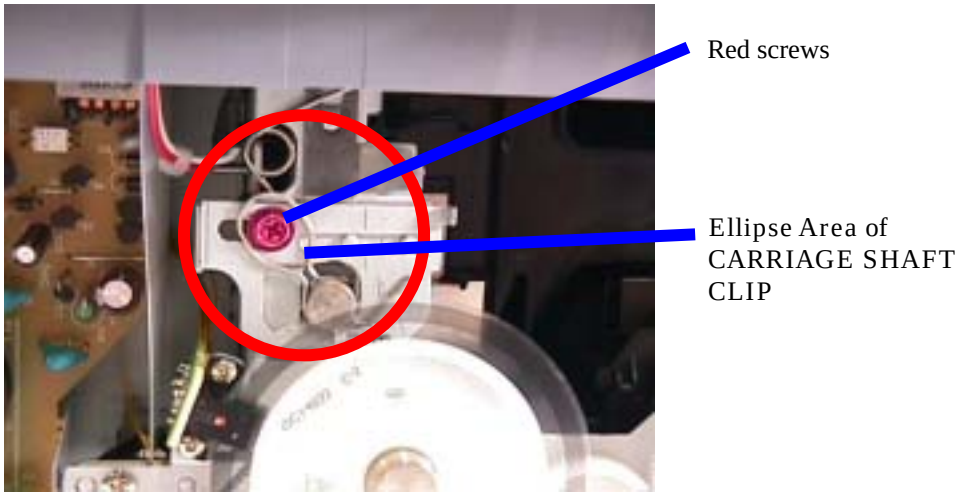


Figure 1-21 CARRIAGE SHAFT CLIP location

3-3-6 Applying White Sheet

(1) Rib bumps are provided in the vertical and the horiz ontal directions (location marks) on the back side of the document cover. Temporally attach the white sheet to the top right corner (no mark), which is the intersection point of the lines that link the marks.

(2) Attach the whole part of the white sheet, by aligning the top edge and the right edge of the white sheet on the lines that link the location marks in the top side and the right side on the back side of the document cover.

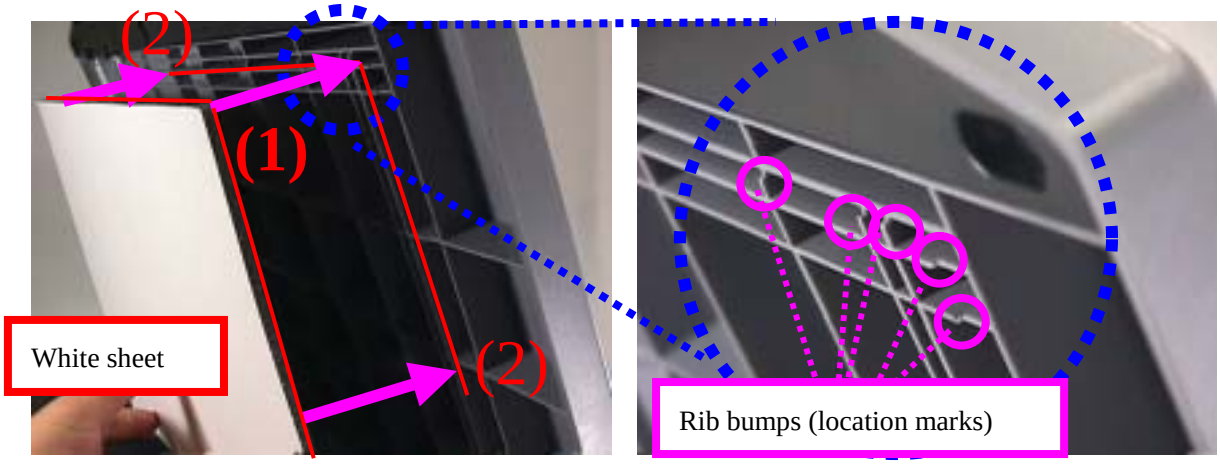


Figure 1-22 Applying white Sheet

(3) Confirm the location to apply the white sheet. For the confirmation, lift up the document cover just a little, and look into to visually confirm that the edges of the white sheet are not placed on the scanner top cover (molded part).

OK Example: The edges of the white sheet are not located on the scanner top cover.

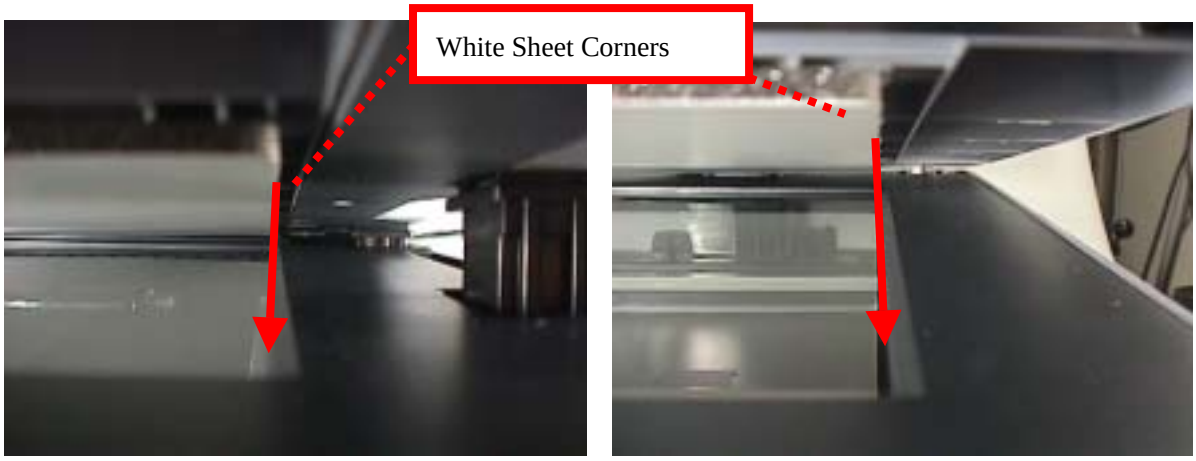


Figure 1-23 Location confirmation to apply the white sheet (the rear side and the right side) (OK example)

NG Example: The edges of the white sheet are located on the scanner top cover.

Figure 1-24 Location confirmation to apply the white sheet (the rear side and the right side) (NG example)

3-3-7 Grease application

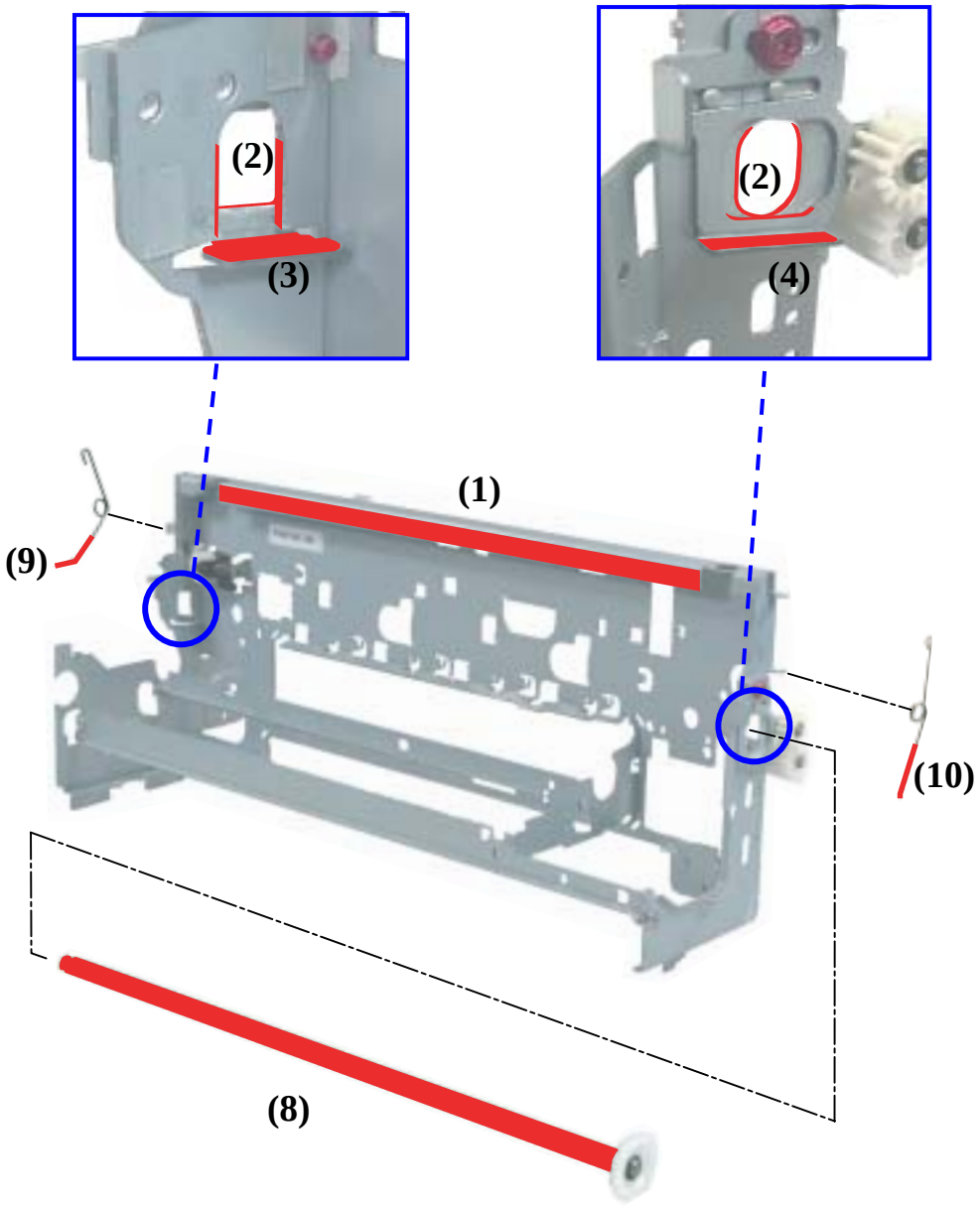


Figure 1-25 Grease application1

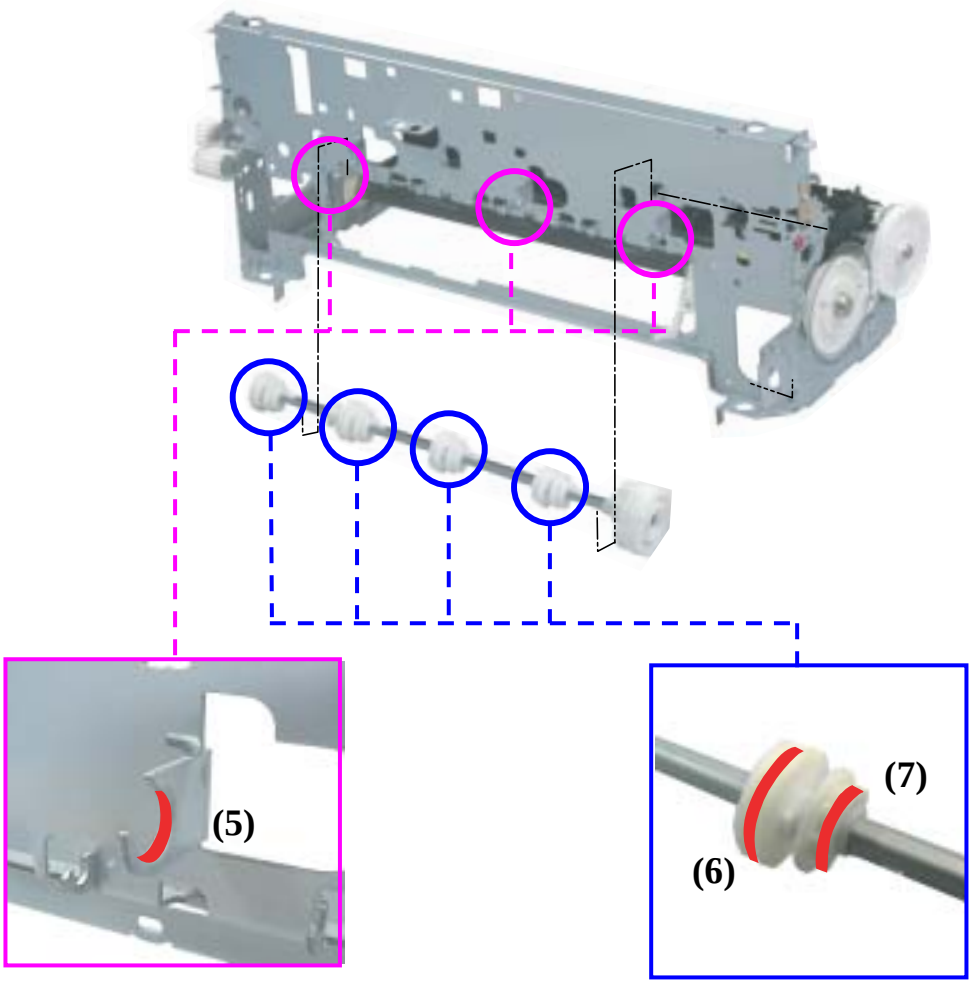


Figure 1-26 Grease application2

Part name		Where to apply grease / oil	Grease / oil name	Grease / oil amount
Chassis	1	Entire surface the CARRIAGE SLIDER contacts	FLOIL KG107A	3 drops
	2	CARRIAGE SHAFT sliding portion	FLOIL KG107A	4 drops
	3	CARRIAGE SHAFT CAM L sliding portion	MOLYKOTE HP300	2 drops
	4	CARRIAGE SHAFT CAM R sliding portion	MOLYKOTE HP300	1 drop
	5	LIFT CAM SHAFT sliding portion	FLOIL KG107A	1 drop
LIFT CAM SHAFT	6	SPRING sliding portion (4 points)	FLOIL KG107A	1 drop x 4 points
	7	PRESSURE ROLLER ASS'Y sliding portion (4 points)	FLOIL KG107A	1 drop x 4 points
CARRIAGE SHAFT	8	CARRAGE and CARRIAGE SHAFT sliding portion	FLOIL KG107A	200 to 400mg
CARRIAGE SHAFT SPRING L	9	CARRIAGE SHAFT sliding portion (over the area more than 2/3 from the top end of the spring)	FLOIL KG107A	1 drop
CARRIAGE SHAFT SPRING R	10	CARRIAGE SHAFT sliding portion (over the area more than 2/3 from the top end of the spring)	FLOIL KG107A	1 drop

Note: 1 drop = 9 to 18 mg

3-3-8 Waste ink counter setting

When the SPCNT board ass'y is replaced, check the amount of the waste ink capacity before the replacement. After the replacement, register the amount of the waste ink capacity on the new SPCNT board ass'y that has been replaced.
To check the waste ink capacity, print out the EEPROM information print.
To register the waste ink capacity, select [7] PRINTER – [5] INK ABS CAPA in the service mode, and input a value between 0 – 100 (%) with the numeric keys.

3-4 User data flow

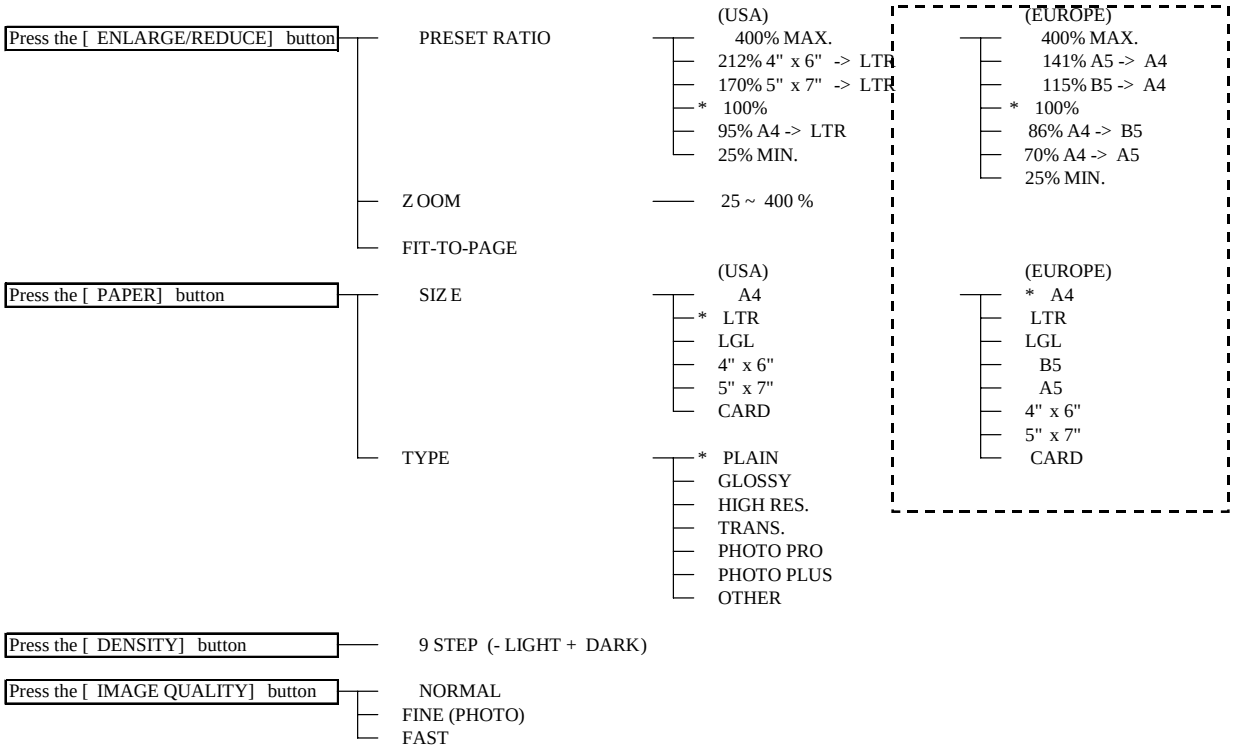
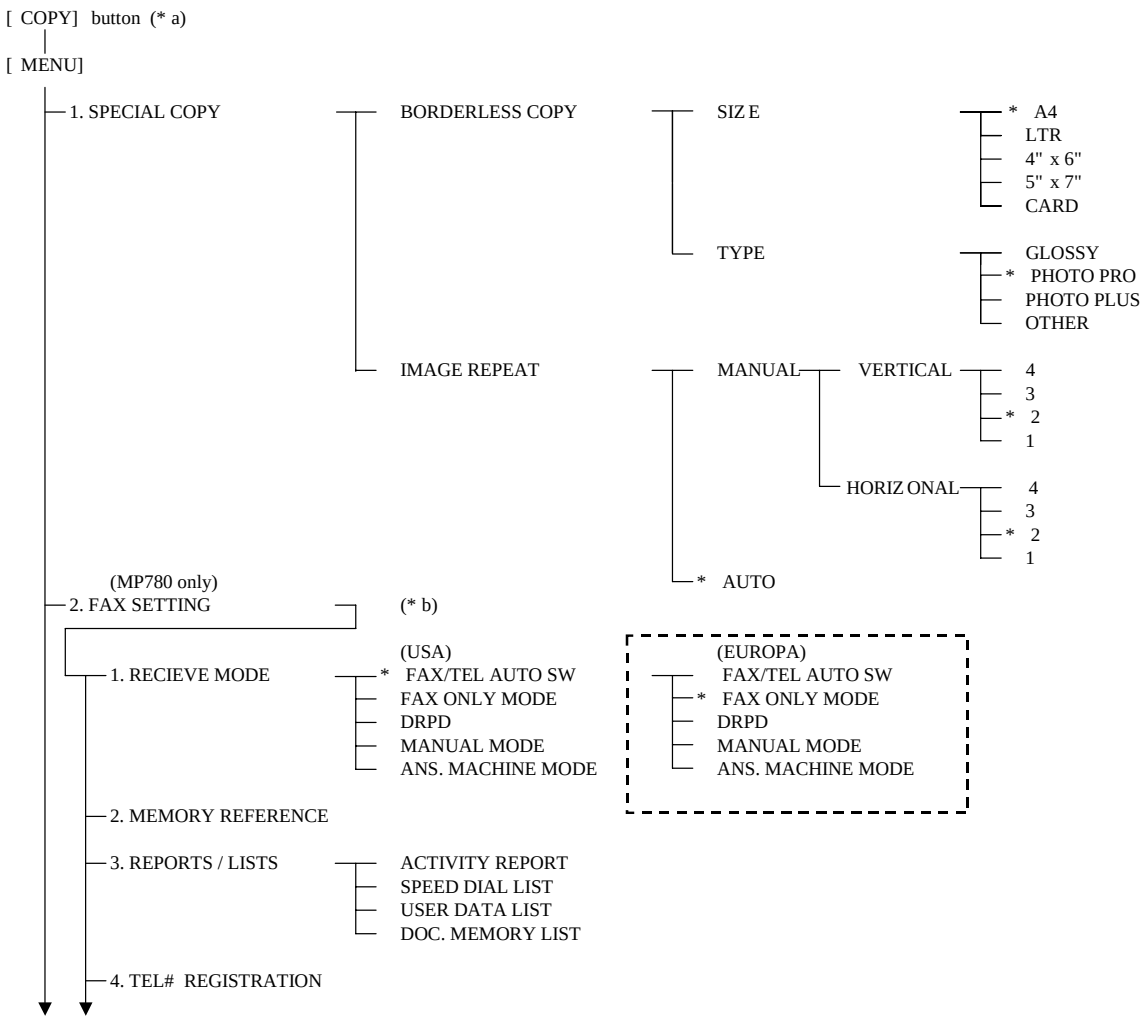


Figure 1-27 Use data flow (1/5)



MEMO:
(* a)(* b): Press the [FAX] button and then the [MENU] button to display this setting at the beginning.

Figure 1-28 Use data flow (2/5)

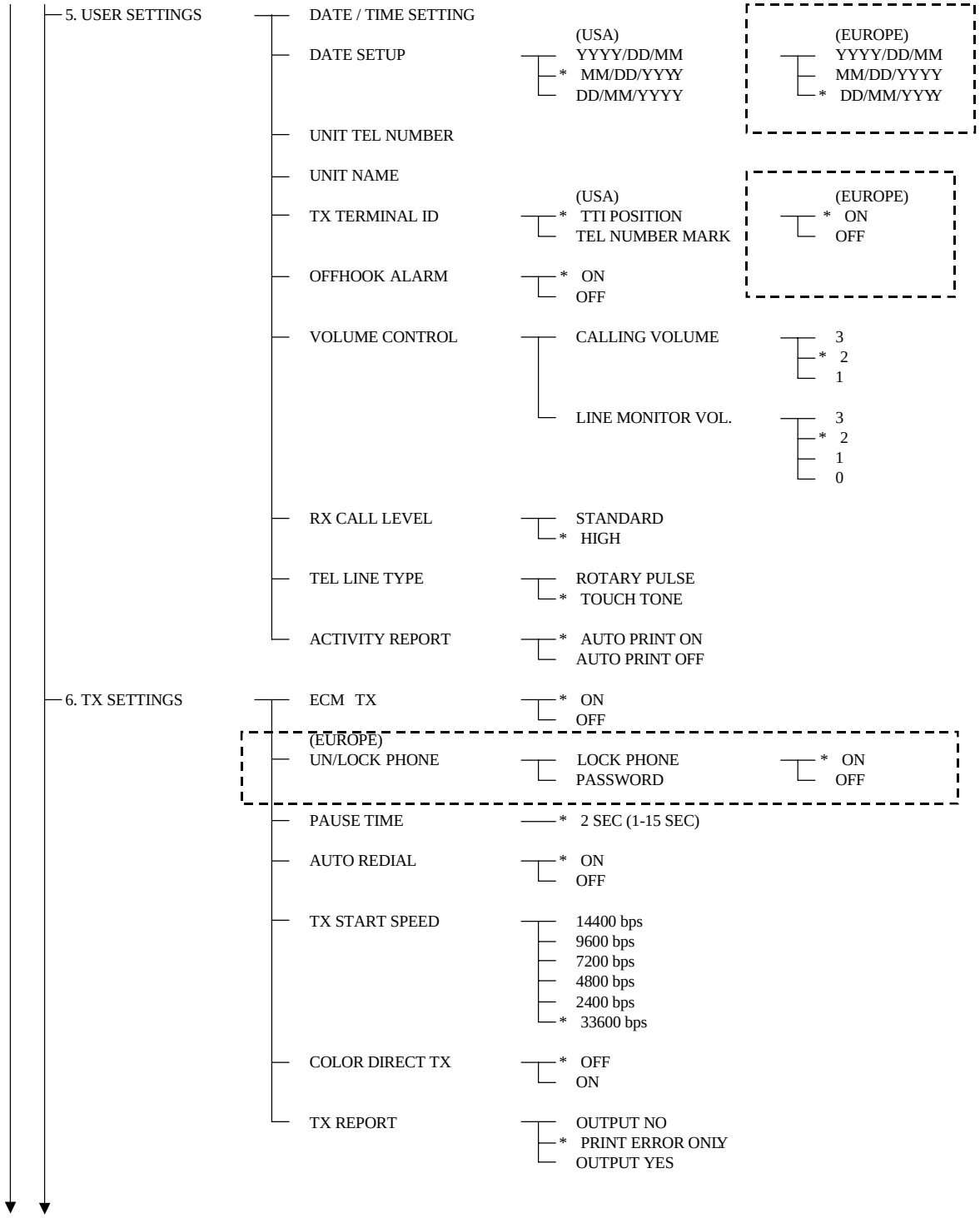


Figure 1-29 Use data flow (3/5)

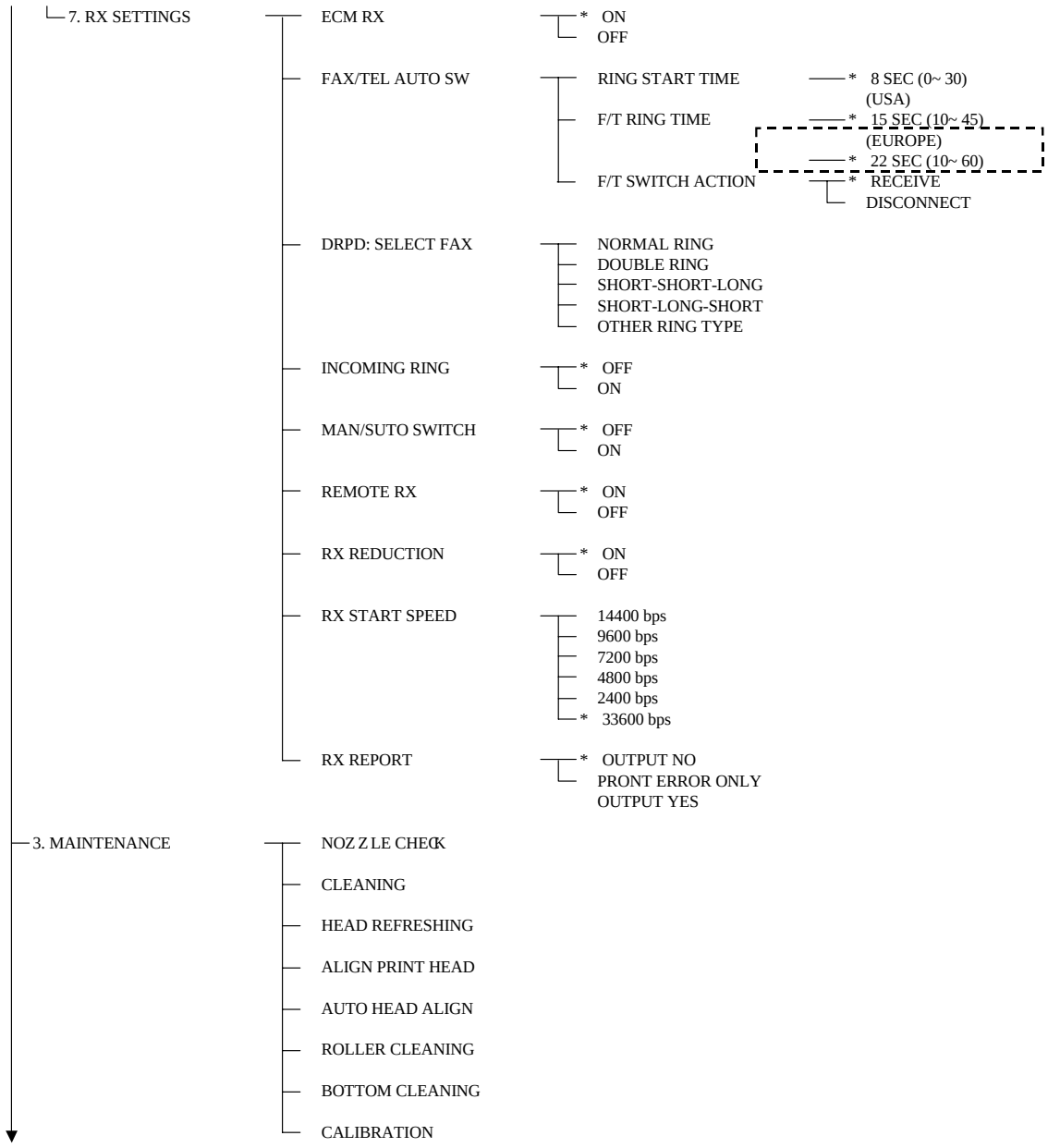


Figure 1-30 Use data flow (4/5)

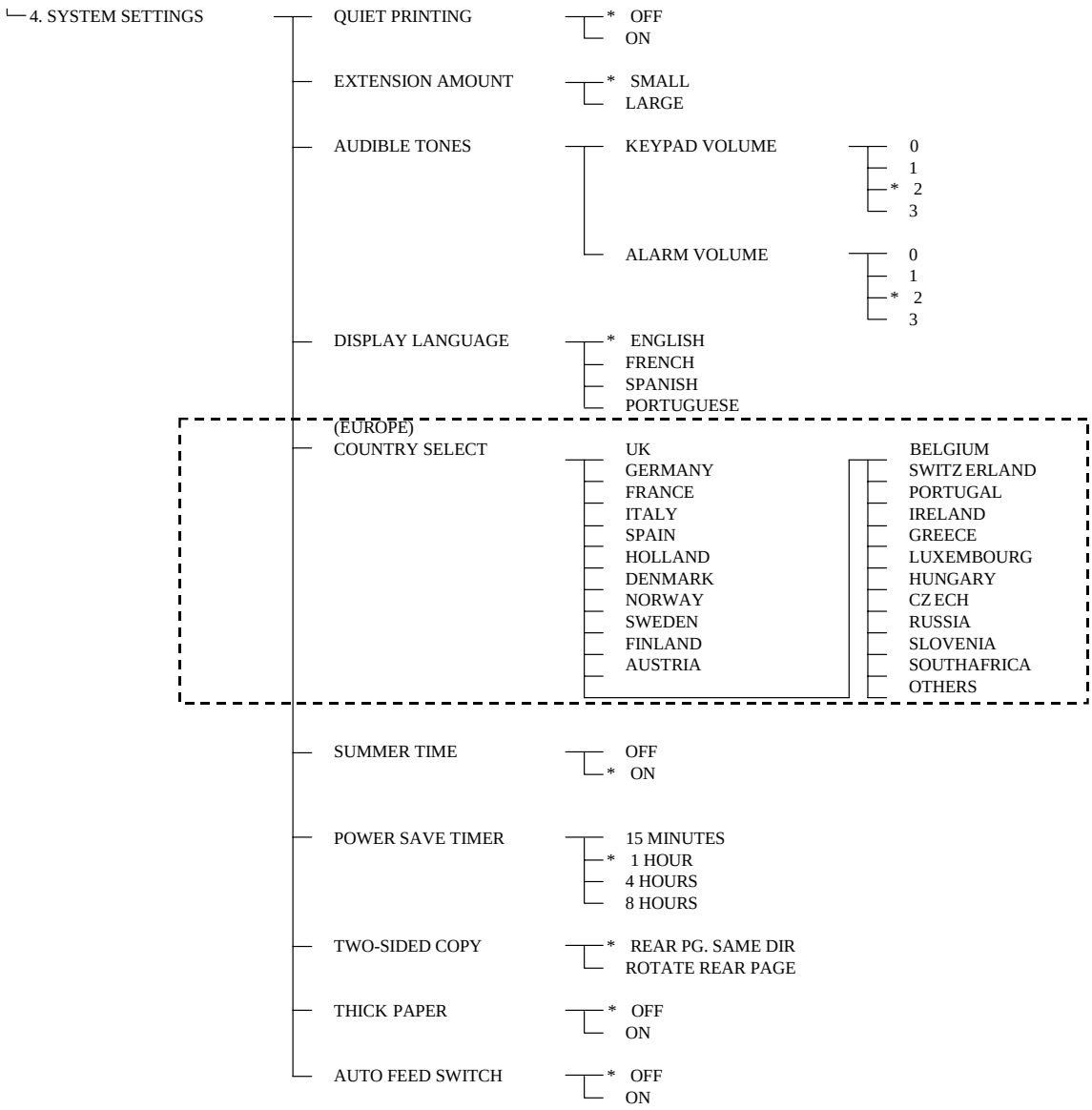


Figure 1-31 Use data flow (5/5)

3-5. SERVICE SWITCHES

3-5-1 Hardware Switches

There is no service hardware switch on the Circuit board.

3-5-2 Service Data Setting

Service data can be checked and changed with items on display menus. The effective SSSWs/ parameters and their default values in this machine are shown in *Service menut* in this chapter. Detailed description of each SSSW/parameter is not given in this manual except the new SSSWs/parameters added to this model. See *G3 Facsimile SERVICE DATA HANDBOOK (Rev. 1) (supplied separately)* for details of them. The new switches for this model are described in *5.6 New SSSWs/Parameters Added to this Model*.

#1 SSSW (Service soft switch settings)

These setting items are for basic fax service functions such as error management, echo countermeasures, and communication trouble countermeasures.

#2 MENU (MENU switch settings)

These setting items are for functions required during installation, such as NL equaliz er and transmission levels.

#3 NUMERIC Param. (NUMERIC parameter settings)

These setting items are for inputting numeric parameters such as the various conditions for the FAX/TEL switching function.

#4 NCU (NCU settings)

These setting items are for telephone network control functions such as the selection signal transmission conditions and the detection conditions, for the control signals sent from the exchange.

#5 TYPE (TYPE setting)

The type setting makes the service data conform to a specific country communications standards. There is only one setting item in this block.

#6 GENESIS (UHQ function setting)

These setting items are for scanned image processing such as edge enhancement and error diffusion processing.

#7 PRINTER (PRINTER function settings)

These setting items are for basic printer service functions such as the reception picture reduction conditions. Also there is an item for resetting the printer section without switching the power off-on.

#8 CLEAR (Data initialization mode)

Various data are initializ ed by selecting one of these setting items. There is a setting item for checking/inputting the total number of pages printed and total number of pages scanned by this machine.

#9 ROM (ROM management)

ROM data such as the version number and checksum are displayed.

3-5-3 Service Data Registration / Setting Method

Service data can be registered/set by the following operations:

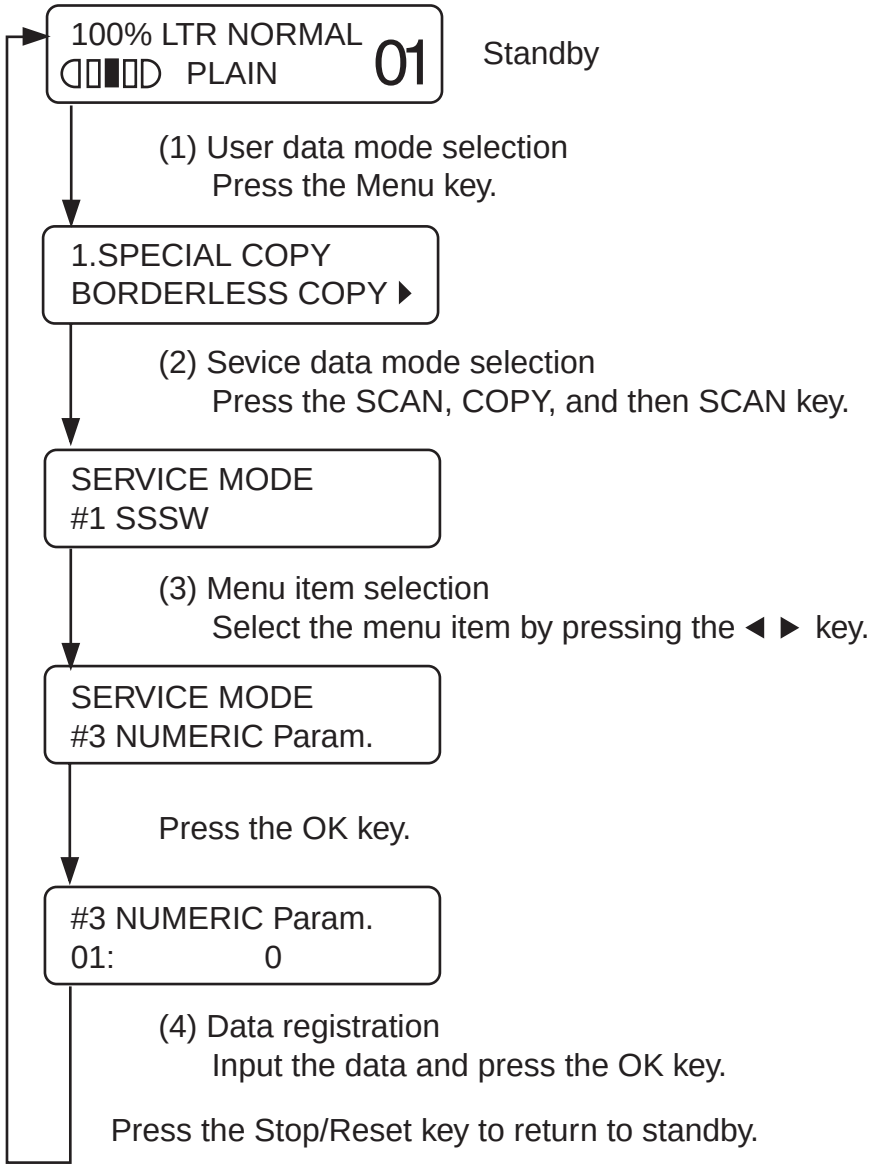


Figure 1-32 Service Data Setting Method

3-5-4 Service Data Flowchart

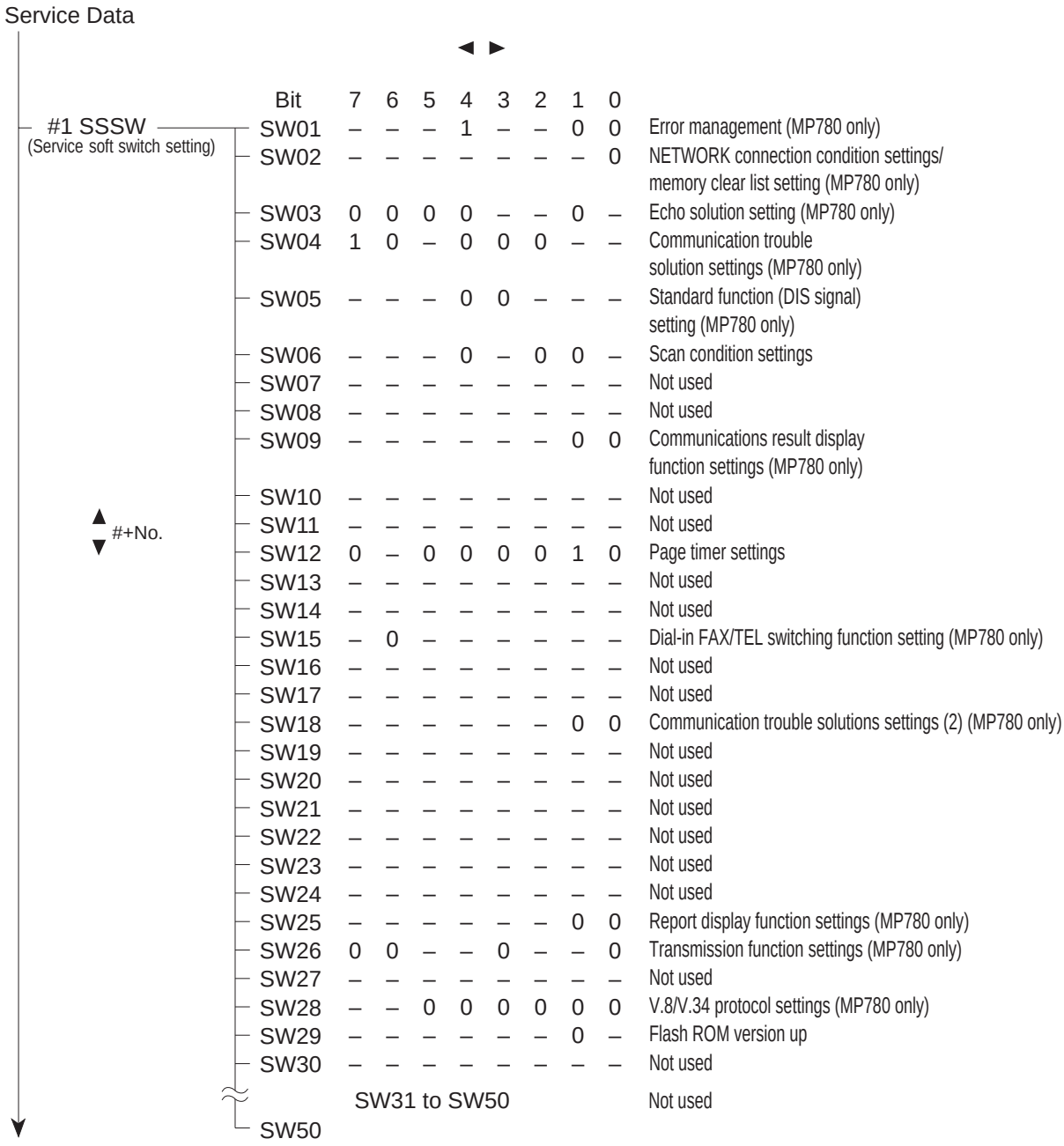
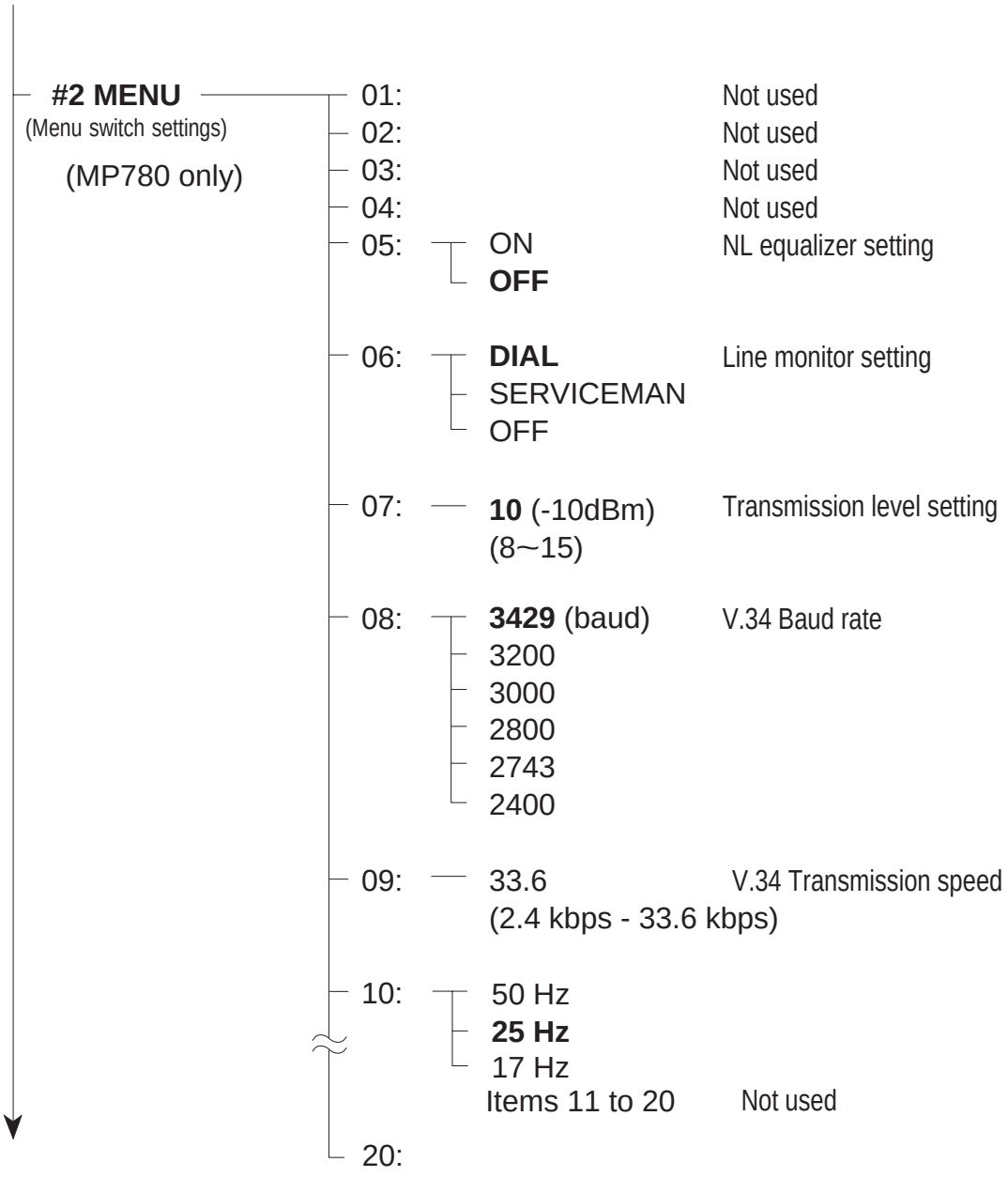


Figure 1-33 Service Data (1/6)

Caution:

The switches marked "-" are not used. Do not change their settings.



Figures in boldface indicate the default setting.

Figure 1-34 Service Data (2/6)

Caution:

No.01 to 04, 10 to 20 are not used. Do not change their settings.

#3 NUMERIC Param. (MP780 only)
(Numeric parameter settings)

	Default	Range	
01:	0		Not used
02:	10 (10%)	(1~ 99)	RTN signal transmission condition (1)
03:	15 (15 lines)	(2~ 99)	RTN signal transmission condition (2)
04:	12 (12 times)	(1~ 99)	RTN signal transmission condition (3)
05:	4		Not used
06:	4		Not used
07:	350		Not used
08:	0		Not used
09:	6 (6 digits)	(1~ 20)	The number of digits in telephone number compared against TSI signal to be matched for restricted receiving function
10:	5500 (55 seconds)	(0~ 9999)	Line connection detection time (T0 timer)
11:	3500 (35 seconds)	(0~9999)	T1 Timer (Rx)
12:	0		Not used
13:	1300		Not used
14:	0		Not used
15:	120 (1200 ms)	(0~ 999)	Hooking detection time
16:	4 (4 seconds)	(0~ 9)	Pseudo RBT transmission from CML on time until start
17:	100 (1000 ms)	(0~ 999)	Pseudo RBT signal pattern: On time
18:	0 (0 ms)	(0~ 999)	Pseudo RBT signal pattern: off time (short)
19:	200 (2000 ms)	(0~ 999)	Pseudo RBT signal pattern: off time (long)
20:	100 (1000 ms)	(0~ 999)	Pseudo ring pattern: On time setting
21:	0 (0ms)	(0~ 999)	Pseudo ring pattern: Off time (short)
22:	200 (2000 ms)	(0~ 999)	Pseudo ring pattern: Off time (long)
23:	44	(Do not change)	FAX/TEL switching function signal detection level
24:	15	(0~ 20)	Pseudo-RBT signal transmission level
25:	60 (600 ms)	(0~ 999)	Answering machine connection function signal detection time
26:	44	(Do not change)	Answering machine connection no-sound detection level
27:	0		Not used

Figure 1-35 Service Data (3/6)

Caution:

No. 01, 05 to 08, 012 to 14, 27 to 30 are not used. Do not change their settings.

The relationship between the settings and the detection levels is as follows:

Parameter 24

0: Not used, 1: Not used, 2: Not used, 3: Not used, 4: Not used
5: -8 dBm, 6: -9 dBm, 7:-10 dBm, 8:-11 dBm, 9:-12 dBm, 10:-13 dBm, 11:-14 dBm,
12:-15 dBm, 13:-16 dBm, 14:-17 dBm, 15:-18 dBm, 16:-19 dBm, 17:-20 dBm, 18:-21 dBm,
19:-22 dBm, 20:-23 dBm

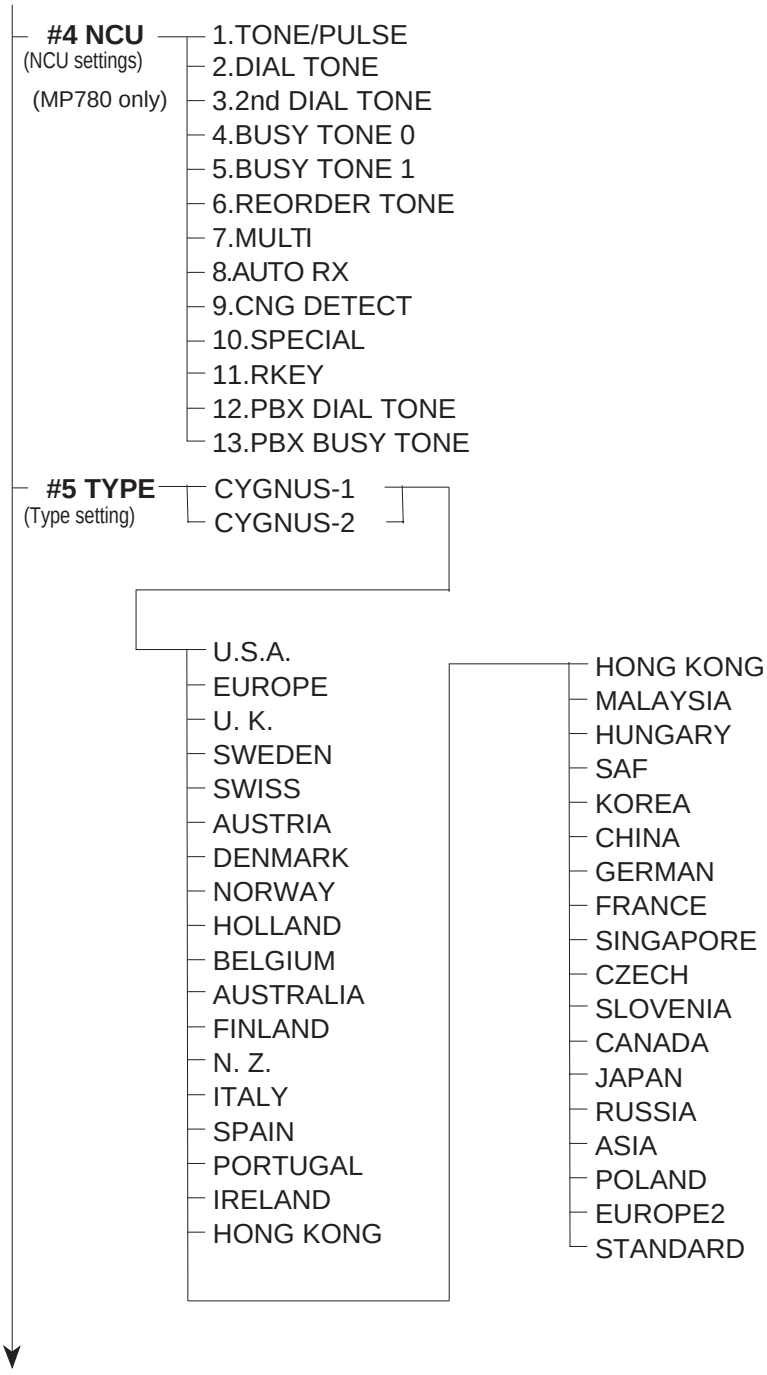


Figure 1-36 Service Data (4/6)

Caution:

#4 NCU (NCU settings)

The values of these items are all set to match a specific nation's communications standards by the # 5 TYPE setting. Do not change these setting.

#5 TYPE (TYPE Setting)

For the machine type settings, select according to the products as follows:

CYGNUS-1: MP750
CYGNUS-2: MP780

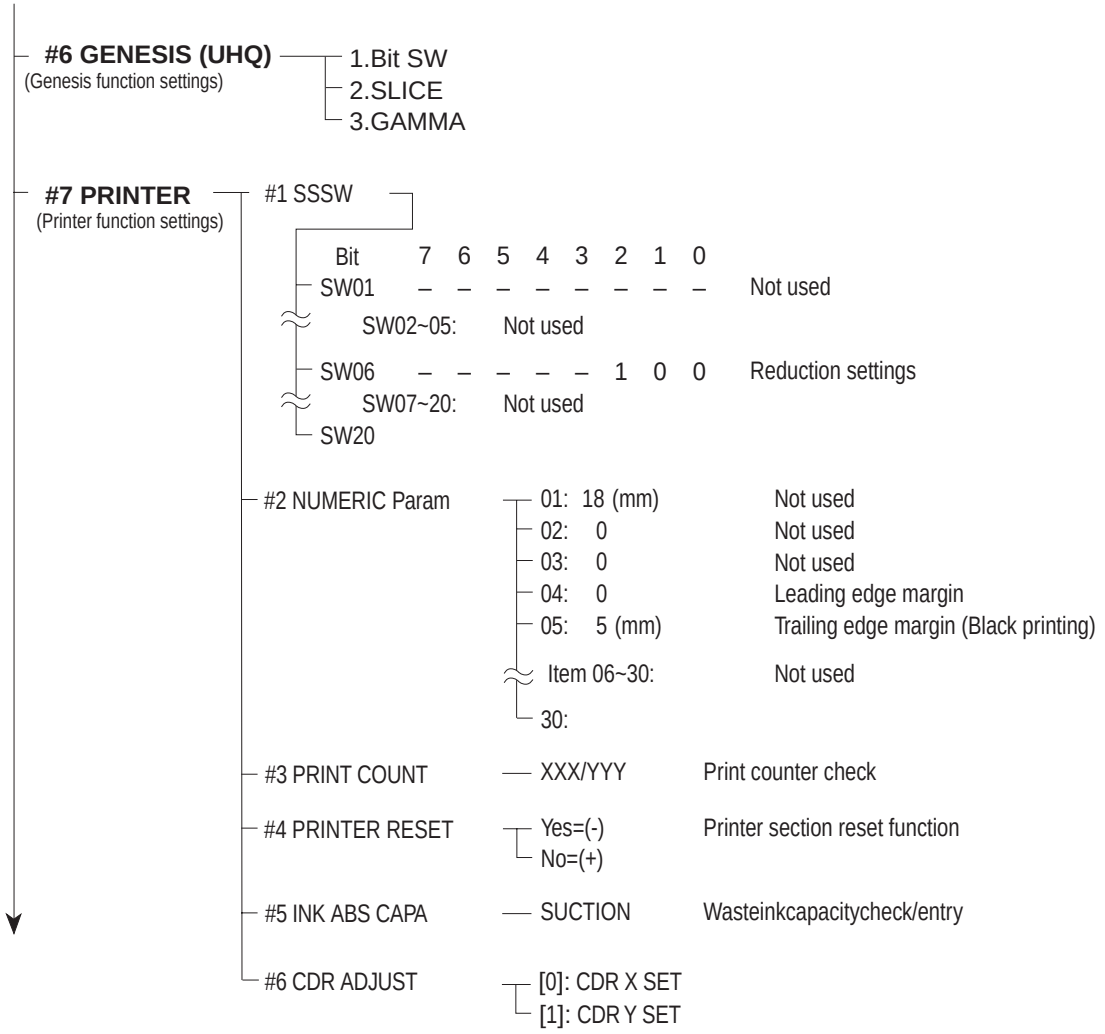


Figure 1-37 Service Data (5/6)

Caution: **#6 GENESIS (UHQ function settings)**

Tampering with this setting may cause the scanned image quality to deteriorate.

Do not change these settings.

Memo:

7 PRINTER (Printer function settings)

1. At # 5 INK ABS CAPA, you can check or register the capacity of waste ink ejected during the cleaning operation. For the waste ink capacity registration, register a value between 0 – 100 (%) with the numeric keys.
   The absorption amount of the waste ink absorber is set based upon the amount that the BJ cartridge has ejected.
   The settings of the waste ink capacity are stored in EEPROM of SPCNT BOARD.
   When replacing the SPCNT BOARD, check the waste ink capacity before the replacement, and register the waste ink capacity at the new SPCNT BOARD after the replacement.
2. At # 6 CDR ADJ UST (CD-R Print writing position adjustment), you can adjust the writing position in X and Y directions within the following range.
   + /-0.0mm, + /-0.1mm, + /-0.2mm, + /-0.4mm, + /-0.6mm, + /-0.8mm, + /-1.0mm
   You can also perform this adjustment from “CD-LabelPrint” or “Easy-PhotoPrint”.

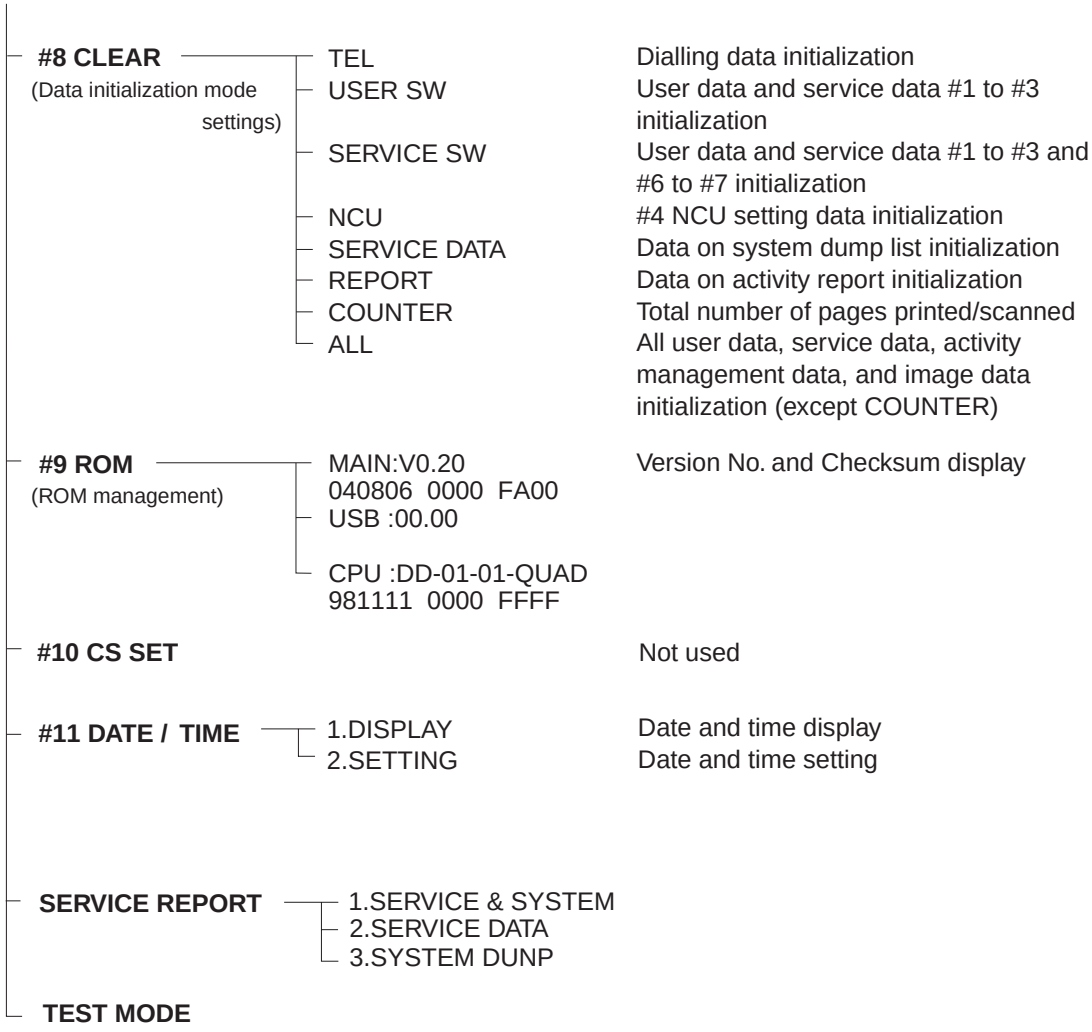


Figure 1-38 Service Data (6/6)

Caution:

If USER SW of # 8 CLEAR is selected, communication management data of user data is not deleted. However, if TEL or SERVICE SW is selected, the communication management data of user data is deleted.

If ALL of # 8 CLEAR is performed, be sure to set # 5 TYPE and turn the power OFF/ON with the Power button (Software Power: OFF/ON). DO NOT turn the power OFF/ON by removing and inserting the power code (Hardware Power: OFF/ON). In this case, data may not be written correctly.

Memo:

The date/time settings at # 11 DATE/TIME is equivalent to the settings at [FAX SETTINGS] – [USER SETTINGS] – [DATE&TIME] . Neither has priority.

3-5-5 Explanation of service data

a) SSSW (Service Soft Switch settings)

The items registered and set by each of these switches comprise 8-bit switches. The figure below shows which numbers are assigned to which bits. Each bit has a value of either 0 or 1.

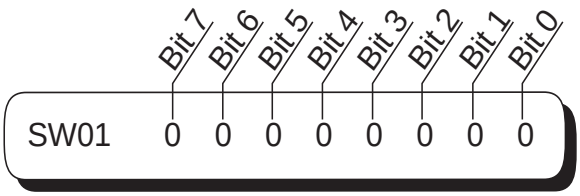


Figure 1-39 Bit Switch Display

See the chart in the service data shown in this Chapter, 5.2.3 Service data setting to see effective bits and their default values. The meanings (functions) of the bits are not described in this manual except the new switches added to this model. See the G3 Facsimile Service Data Handbook (supplied separately) for details of the switches.

Below are examples showing how to read bit switch tables.

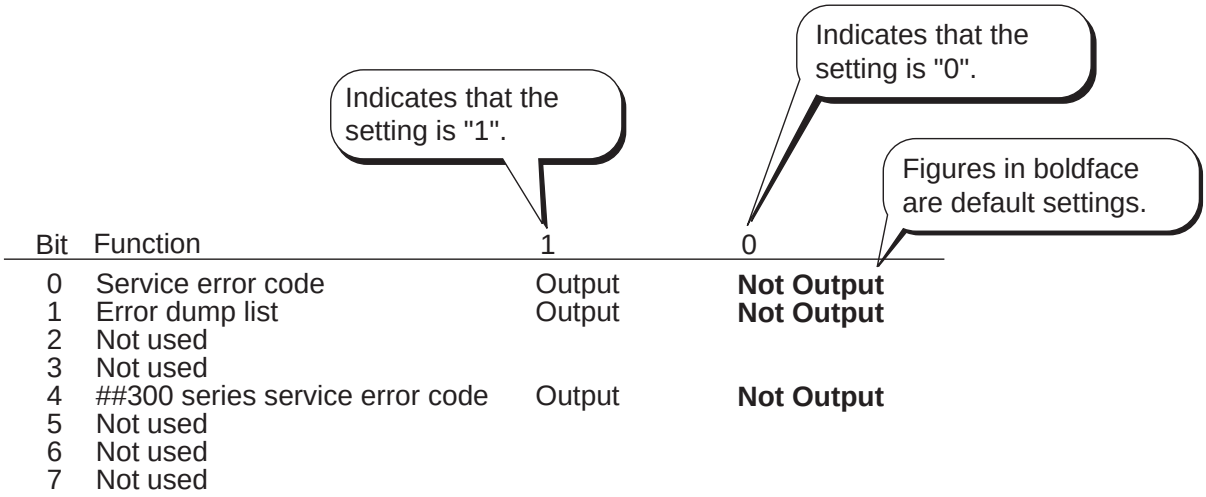


Figure 1-40 How to Read Bit Switch Tables

3-5-6 New SSSWs/parameters added to this model

#1 SSSW (service soft switch setting)

SW01 (service soft switch 01: error management)

Bit	Function	1	0
0	Service error code	Output	**Not output**
1	Error dump list	Output	**Not output**
2	Not used		
3	Not used		
4 (New)	# # 300 series service error code	Output	**Not output**
5	Not used		
6	Not used		
7	Not used		

[Bit 4]

Even when Bit0 is set to " Not output" , you can select whether or not to output # # 300 series Service Error Codes, caused by hardware malfunction.

When " Output" is selected, # # 300 series Service Error Codes are displayed and in reports.

When " Not Output" is selected, no Service Error Codes are displayed.

#1 SSSW (service soft switch setting)

SW15 (service soft switch 15: Dial-in FAX/TEL switching function setting)

Bit	Function	1	0
0	Not used		
1	Not used		
2	Not used		
3	Not used		
4	Not used		
5	Not used		
6 (New)	Detect continuous signal at FAX/TEL switching	**Yes**	No
7	Not used		

[Bit 6]

You may enable or disable detection of ROT continuous signal for FAX/TEL switching.

Normally, only ROT intermittent signals are detected for FAX/TEL switching. If you need to detect both in view of exchange specifications, select to enable detection.

#1 SSSW (service soft switch setting)

SW18 bit Communication trouble solutions settings

Bit	Function	1	0
0	Carrier break detection between DCS and TCF	Yes	No
1	Waiting time for carrier break detection between DCS and TCF (Valid only when bit0 of SW18 is 1)	600[ms]	300[ms]
2	Not used		
3	Not used		
4	Not used		
5	Not used		
6	Not used		
7	Not used		

[Bit 0]

Enable the carrier break detection between DCS and TCF.

[Bit 1]

Switch the waiting time for carrier break detection between DCS and TCF.

SW26 (service soft switch 26: Transmission function setting)

Bit	Function	1	0
0	Compulsory direct transmission	Set	**Not set**
1	Not used		
2	Not used		
3 (New)	Prohibit broadcast	Yes	**No**
4	Not used		
5	Not used		
6	When STOP key is pressed during a sequential broadcasting	Only cancel communication	**Cancel all communication**
7	Error transmission report when transmission is stopped	Not output	**Output**

[Bit 3]

You may disable selection of multiple addresses to prevent broadcasting by mistake (on the part of the user); however, this setting will not affect broadcasting by group dialing.

SW28 (service soft switch 28: V.8/V.34 protocol settings)

Bit	Function	1	0
0 (New)	Caller V.8 protocol	NO	**YES**
1 (New)	Called party V.8 protocol	NO	**YES**
2 (New)	Caller V.8 protocol late start	NO	**YES**
3 (New)	Called party V.8 protocol late start	NO	**YES**
4 (New)	V.34 reception fallback	Prohibited	**Not prohibited**
5 (New)	V.34 transmission fallback	Prohibited	**Not prohibited**
6	Not used		
7	Not used		

[Bit 0]

Select whether to use the V.8 protocol when calling. If NO is selected, the V.8 protocol is inhibited at calling and the V.21 protocol is used.

[Bit 1]

Select whether to use the V.8 protocol when called. If NO is selected, the V8 protocol is inhibited when called and the V.21 protocol is used.

[Bit 2]

If ANSam signal is not received during transmission (mainly manual transmission), select whether to use the V.8 protocol when the other fax machine declares the V.8 protocol in DIS signal. If NO is selected, the CI signal is not transmitted and the V.8 protocol is not used even if the DIS that specifies the V.8 protocol is received.

[Bit 3]

Select whether to declare the V.8 protocol in DIS signal for reception (mainly caller manual transmission). If NO is selected, the V.8 protocol cannot be used because it is not declared in DIS signal.

[Bit 4]

Select whether the receiver falls back during V.34 reception. If OFF is selected, the receiver does not fall back.

[Bit 5]

Select whether the transmitter falls back during V.34 transit. If OFF is selected, the transmitter does not fall back.

SW29 Flash ROM version up

Bit	Function	1	0
0	Not used		
1 (New)	Flash ROM version up	YES	**NO**
2	Not used		
3	Not used		
4	Not used		
5	Not used		
6	Not used		
7	Not used		

[Bit 1]

If YES is selected, the version of Update flash ROM can be upgraded.

#2 MENU

No.	Function	Selection range	Default setting
08	V.34 max. baud rate	2400~ 3429	3429 (3429 baud)
09	V.34 max. transmission speed	2400~ 33600	33600 (33600 bps)

[No. 08]

Select the maximum baud rate for V.34 transmission: 3429, 3200, 3000, 2800, 2743, and 2400.

NOTE

This model cannot use 2743 baud due to its modem specification. If it is set to 2743 baud, the maximum baud rate is 2400 baud.

[No.09]

Select the maximum transmission speed for V.34 transmission: 2400 to 33600 bps (2400 × n: 1 ≤ n ≤ 14).

#3 NUMERIC PARAM (numeric parameter settings)

No.	Function	Selecting range	Default setting
10	T0 Timer	0~ 9999	5500 (55 second)
11	T1 Timer (Rx)	0~ 9999	3500 (35 second)

[Parameter 10]

The " wait time after transmission of a dialing signal ends until a significant signal is detected in transmission" was set as T1 timer with parameter 10.

However, ITU-T recommends that it should be set as T0 timer, so parameter 10 has been renamed to T0 timer and the default time-out time has been changed from 35 to 55 seconds.

NOTE:

The T1 timer for the transmitter (wait time after a CED, V21 flag, or ANSam significant signal is detected until the next significant signal is detected) is fixed at 35 seconds.

[Parameter 11]

Set the T1 timer for the receiver (wait time after DIS transmission starts until a significant signal is received).

If frequent errors occur during reception (2 instances) because of line connection conditions, raise the value of this parameter.

#7 PRINTER (printer function settings)

2. NUMERIC PARAM.

No.	Function	Selecting range	Default setting
05	Trailing edge margin	0 ~ 9999	5 (5 mm)

[Parameter 05]

Sets the print image trailing edge margin.

5. INK ABS CAPA

This switch allows the waste ink capacity stored in the PCNT board to be checked or entered.

[SUCTION]

At # 5 INK ABS CAPA, you can check or registerthe capacity of waste ink ejected during the cleaning operation. For the waste ink capacity registration, register a value between 0 – 100 (%) with the numeric keys.
The absorption amount of the waste ink absorber is set based upon the amount that the BJ cartridge has ejected.
The settings of the waste ink capacity are stored in EEPROM of SPCNT BOARD.
When replacing the SPCNT BOARD, check the waste ink capacity before the replacement, and register the waste ink capacity at the new SPCNT BOARD after the replacement.

6.CDR ADJUST

At # 6 CDR ADJ UST (CD-R Print writing position adjustment), you can adjust the writing position in X and Y directions within the following range.
+ /-0.0mm, + /-0.1mm, + /-0.2mm, + /-0.4mm, + /-0.6mm, + /-0.8mm, + /-1.0mm
You can also perform this adjustment from “CD-LabelPrint” or “Easy-PhotoPrint”.

3-5-7 SSSW Default Setting

TYPE	U.S.A.	EUROPE	U.K.	SWEDEN	SWISS	AUSTRIA
#1 SSSW						
SW01	00000000	00010000	00010000	00010000	00010000	00010000
SW02	00000000	00000000	00000000	00000000	00000000	00000000
SW03	00000000	00000000	00000000	00000000	00000000	00000000
SW04	10000000	10000000	10000000	10000000	10000010	10000010
SW05	00000000	00000000	00000000	00000000	00000000	00000000
SW06	10010000	10000000	10000000	10000000	10000000	10000000
SW07	00000000	00000000	00000000	00000000	00000000	00000000
SW08	00000000	00000000	00000000	00000000	00000000	00000000
SW09	00000000	00000000	00000000	00000000	00000000	00000000
SW10	00000000	00000000	00000000	00000000	00000000	00000000
SW11	00000000	00000000	00000000	00000000	00000000	00000000
SW12	00000010	00000010	00000010	00000010	00000010	00000010
SW13	00000000	00000000	00000000	00000000	00000000	00000000
SW14	00000000	00000000	00000000	00000000	00000000	00000000
SW15	00000000	00000000	01000000	00000000	00000000	00000000
SW16	00000011	00000011	00000011	00000011	00000011	00000011
SW17	00000000	00000000	00000000	00000000	00000000	00000000
SW18	00000000	00000000	00000000	00000000	00000000	00000000
SW19	00000000	00000000	00000000	00000000	00000000	00000000
SW20	10000000	10000000	10000000	10000000	10000000	10000000
SW21	00000000	00000000	00000000	00000000	00000000	00000000
SW22	00000000	00000000	00000000	00000000	00000000	00000000
SW23	00000000	00000000	00000000	00000000	00000000	00000000
SW24	00000000	00000000	00000000	00000000	00000000	00000000
SW25	00001000	00001000	00001000	00001000	00001000	00001001
SW26	00000000	00000000	00000000	00000000	00000000	00000000
SW27	00000000	00000000	00000000	00000000	00000000	00000000
SW28	00000000	00000000	00000000	00000000	00000000	00000000
SW29	00000000	00000000	00000000	00000000	00000000	00000000
SW30	00000000	00000000	00000000	00000000	00000000	00000000

TYPE	U.S.A.	EUROPE	U.K.	SWEDEN	SWISS	AUSTRIA
SW31	00000000	00000000	00000000	00000000	00000000	00000000
SW32	00000000	00000000	00000000	00000000	00000000	00000000
SW33	00000000	00000000	00000000	00000000	00000000	00000000
SW34	00000000	00000000	00000000	00000000	00000000	00000000
SW35	00000000	00000000	00000000	00000000	00000000	00000000
SW36	00000000	00000000	00000000	00000000	00000000	00000000
SW37	00000000	00000000	00000000	00000000	00000000	00000000
SW38	00000000	00000000	00000000	00000000	00000000	00000000
SW39	00000000	00000000	00000000	00000000	00000000	00000000
SW40	00000000	00000000	00000000	00000000	00000000	00000000
SW41	00000000	00000000	00000000	00000000	00000000	00000000
SW42	00000000	00000000	00000000	00000000	00000000	00000000
SW43	00000000	00000000	00000000	00000000	00000000	00000000
SW44	00000000	00000000	00000000	00000000	00000000	00000000
SW45	00000000	00000000	00000000	00000000	00000000	00000000
SW46	00000000	00000000	00000000	00000000	00000000	00000000
SW47	00000000	00000000	00000000	00000000	00000000	00000000
SW48	00000000	00000000	00000000	00000000	00000000	00000000
SW49	00000000	00000000	00000000	00000000	00000000	00000000
SW50	00000000	00000000	00000000	00000000	00000000	00000000
#2 MENU						
05:	OFF	OFF	OFF	OFF	OFF	OFF
06:	DIAL	DIAL	DIAL	DIAL	DIAL	DIAL
07:	10	10	10	10	10	10
08:	3429	3429	3429	3429	3429	3429
09:	33.6	33.6	33.6	33.6	33.6	33.6
10:	25 Hz	25 Hz	25 Hz	25 Hz	25 Hz	25 Hz

TYPE	DENMARK	NORWAY	HOLLAND	BELGIUM	AUSTRALIA	FINLAND
#1 SSSW						
SW01	00010000	00010000	00010000	00010000	00010000	00010001
SW02	00000000	00000000	00000000	00000000	00000000	00000000
SW03	00000000	00000000	00000000	00000000	00000000	00000000
SW04	10000000	10000010	10000010	10000000	10000000	10000000
SW05	00000000	00000000	00000000	00000000	00000000	00000000
SW06	10000000	10000000	10000000	10000000	10000000	10000000
SW07	00000000	00000000	00000000	00000000	00000000	00000000
SW08	00000000	00000000	00000000	00000000	00000000	00000000
SW09	00000000	00000000	00000000	00000000	00000000	00000000
SW10	00000000	00000000	00000000	00000000	00000000	00000000
SW11	00000000	00000000	00000000	00000000	00000000	00000000
SW12	00000010	00000010	00000010	00000010	00000010	00000010
SW13	00000000	00000000	00000000	00000000	00000000	00000000
SW14	00000000	00000000	00000000	00000000	00000000	00000000
SW15	00000000	00000000	00000000	00000000	00000000	00000000
SW16	00000011	00000011	00000011	00000011	00000011	00000011
SW17	00000000	00000000	00000000	00000000	00000000	00000000
SW18	00000000	00000000	00000000	00000000	00000000	00000000
SW19	00000000	00000000	00000000	00000000	00000000	00000000
SW20	10000000	10000000	10000000	10000000	10000000	10000000
SW21	00000000	00000000	00000000	00000000	00000000	00000000
SW22	00000000	00000000	00000000	00000000	00000000	00000000
SW23	00000000	00000000	00000000	00000000	00000000	00000000
SW24	00000000	00000000	00000000	00000000	00000000	00000000
SW25	00001000	00001000	00001000	00001000	00001000	00001000
SW26	00000000	00000000	00000000	00000000	00000000	00000000
SW27	00000000	00000000	00000000	00000000	00000000	00000000
SW28	00000000	00000000	00000000	00000000	00000000	00000000
SW29	00000000	00000000	00000000	00000000	00000000	00000000
SW30	00000000	00000000	00000000	00000000	00000000	00000000

TYPE	DENMARK	NORWAY	HOLLAND	BELGIUM	AUSTRALIA	FINLAND
SW31	00000000	00000000	00000000	00000000	00000000	00000000
SW32	00000000	00000000	00000000	00000000	00000000	00000000
SW33	00000000	00000000	00000000	00000000	00000000	00000000
SW34	00000000	00000000	00000000	00000000	00000000	00000000
SW35	00000000	00000000	00000000	00000000	00000000	00000000
SW36	00000000	00000000	00000000	00000000	00000000	00000000
SW37	00000000	00000000	00000000	00000000	00000000	00000000
SW38	00000000	00000000	00000000	00000000	00000000	00000000
SW39	00000000	00000000	00000000	00000000	00000000	00000000
SW40	00000000	00000000	00000000	00000000	00000000	00000000
SW41	00000000	00000000	00000000	00000000	00000000	00000000
SW42	00000000	00000000	00000000	00000000	00000000	00000000
SW43	00000000	00000000	00000000	00000000	00000000	00000000
SW44	00000000	00000000	00000000	00000000	00000000	00000000
SW45	00000000	00000000	00000000	00000000	00000000	00000000
SW46	00000000	00000000	00000000	00000000	00000000	00000000
SW47	00000000	00000000	00000000	00000000	00000000	00000000
SW48	00000000	00000000	00000000	00000000	00000000	00000000
SW49	00000000	00000000	00000000	00000000	00000000	00000000
SW50	00000000	00000000	00000000	00000000	00000000	00000000
#2 MENU						
05:	OFF	OFF	OFF	OFF	OFF	OFF
06:	DIAL	DIAL	DIAL	DIAL	DIAL	DIAL
07:	10	10	10	10	10	10
08:	3429	3429	3429	3429	3429	3429
09:	33.6	33.6	33.6	33.6	33.6	33.6
10:	25 Hz	25 Hz	25 Hz	25 Hz	25 Hz	25 Hz

TYPE	N.Z	ITALY	SPAIN	PORTUGAL	IRELAND	HONG KONG
#1 SSSW						
SW01	00010000	00010000	00010000	00010000	00010000	00010000
SW02	00000000	00000000	00000000	00000000	00000000	00000000
SW03	00000000	00000000	00000000	00000000	00000000	00000000
SW04	10000000	10000010	10000010	10000010	10000000	10000000
SW05	00000000	00000000	00000000	00000000	00000000	00000000
SW06	10000000	10000000	10000000	10000000	10000000	10000000
SW07	00000000	00000000	00000000	00000000	00000000	00000000
SW08	00000000	00000000	00000000	00000000	00000000	00000000
SW09	00000000	00000000	00000000	00000000	00000000	01000000
SW10	00000000	00000000	00000000	00000000	00000000	00000000
SW11	00000000	00000000	00000000	00000000	00000000	00000000
SW12	00000010	00000010	00000010	00000010	00000010	00000010
SW13	00000000	00000000	00000000	00000000	00000000	00000000
SW14	00000000	00000000	00000000	00000000	00000000	00000000
SW15	00000000	00000000	00000000	00000000	00000000	00000000
SW16	00000011	00000011	00000011	00000011	00000011	00000011
SW17	00000000	00000000	00000000	00000000	00000000	00000000
SW18	00000000	00000000	00000000	00000000	00000000	00000000
SW19	00000000	00000000	00000000	00000000	00000000	00000000
SW20	10000000	10000000	10000000	10000000	10000000	10000000
SW21	00000000	00000000	00000000	00000000	00000000	00000000
SW22	00000000	00000000	00000000	00000000	00000000	00000000
SW23	00000000	00000000	00000000	00000000	00000000	00000000
SW24	00000000	00000000	00000000	00000000	00000000	00000000
SW25	00001000	00001000	00001001	00001000	00001000	00001000
SW26	00000000	10000000	00000000	00000000	00000000	00000000
SW27	00000000	00000000	00000000	00000000	00000000	00000000
SW28	00000000	00000000	00000000	00000000	00000000	00000000
SW29	00000000	00000000	00000000	00000000	00000000	00000000
SW30	00000000	00000000	00000000	00000000	00000000	00000000

TYPE	N.Z	ITALY	SPAIN	PORTUGAL	IRELAND	HONG KONG
SW31	00000000	00000000	00000000	00000000	00000000	00000000
SW32	00000000	00000000	00000000	00000000	00000000	00000000
SW33	00000000	00000000	00000000	00000000	00000000	00000000
SW34	00000000	00000000	00000000	00000000	00000000	00000000
SW35	00000000	00000000	00000000	00000000	00000000	00000000
SW36	00000000	00000000	00000000	00000000	00000000	00000000
SW37	00000000	00000000	00000000	00000000	00000000	00000000
SW38	00000000	00000000	00000000	00000000	00000000	00000000
SW39	00000000	00000000	00000000	00000000	00000000	00000000
SW40	00000000	00000000	00000000	00000000	00000000	00000000
SW41	00000000	00000000	00000000	00000000	00000000	00000000
SW42	00000000	00000000	00000000	00000000	00000000	00000000
SW43	00000000	00000000	00000000	00000000	00000000	00000000
SW44	00000000	00000000	00000000	00000000	00000000	00000000
SW45	00000000	00000000	00000000	00000000	00000000	00000000
SW46	00000000	00000000	00000000	00000000	00000000	00000000
SW47	00000000	00000000	00000000	00000000	00000000	00000000
SW48	00000000	00000000	00000000	00000000	00000000	00000000
SW49	00000000	00000000	00000000	00000000	00000000	00000000
SW50	00000000	00000000	00000000	00000000	00000000	00000000
#2 MENU						
05:	OFF	OFF	OFF	OFF	OFF	OFF
06:	DIAL	DIAL	DIAL	DIAL	DIAL	DIAL
07:	10	10	10	10	10	10
08:	3429	3429	3429	3429	3429	3429
09:	33.6	33.6	33.6	33.6	33.6	33.6
10:	25 Hz	25 Hz	25 Hz	25 Hz	25 Hz	25 Hz

TYPE	MALAYSIA	HUNGARY	SAF	KOREA	CHINA	GERMAN
#1 SSSW						
SW01	00010000	00010000	00010000	00010000	00010000	00010000
SW02	00000000	00000000	00000000	00000000	00000000	00000000
SW03	00000000	00000000	00000000	00000000	00000001	00000000
SW04	10000000	10000000	10000000	10000000	10000000	00000010
SW05	00000000	00000000	00000000	00000000	00000000	00000000
SW06	10000000	10000000	10000000	10000000	10000000	10000000
SW07	00000000	00000000	00000000	00000000	00000000	00000000
SW08	00000000	00000000	00000000	00000000	00000000	00000000
SW09	01000000	00000000	01000000	01000000	01000000	00000000
SW10	00000000	00000000	00000000	00000000	00000000	00000000
SW11	00000000	00000000	00000000	00000000	00000000	00000000
SW12	00000010	00000010	00000010	00000010	00000010	00000010
SW13	00000000	00000000	00000000	00000000	00000000	00000000
SW14	00000000	00000000	00000000	00000000	00000000	00000000
SW15	00000000	00000000	00000000	00000000	00000000	00000000
SW16	00000011	00000011	00000011	00000011	00000011	00000011
SW17	00000000	00000000	00000000	00000000	00000000	00000000
SW18	00000000	00000000	00000000	00000000	00000000	00000000
SW19	00000000	00000000	00000000	00000000	00000000	00000000
SW20	10000000	10000000	10000000	10000000	10000000	10000000
SW21	00000000	00000000	00000000	00000000	00000000	00000000
SW22	00000000	00000000	00000000	00000000	00000000	00001000
SW23	00000000	00000000	00000000	00000000	00000000	00000000
SW24	00000000	00000000	00000000	00000000	00000000	00000000
SW25	00001000	00001000	00001000	00001000	00001000	00001101
SW26	00000000	00000000	00000000	00000000	00000000	00010000
SW27	00000000	00000000	00000000	00000000	00000000	00000000
SW28	00000000	00000000	00000000	00000000	00000000	00000000
SW29	00000000	00000000	00000000	00000000	00000000	00000000
SW30	00000000	00000000	00000000	00000000	00000000	00000000

TYPE	MALAYSIA	HUNGARY	SAF	KOREA	CHINA	GERMAN
SW31	00000000	00000000	00000000	00000000	00000000	00000000
SW32	00000000	00000000	00000000	00000000	00000000	00000000
SW33	00000000	00000000	00000000	00000000	00000000	00000000
SW34	00000000	00000000	00000000	00000000	00000000	00000000
SW35	00000000	00000000	00000000	00000000	00000000	00000000
SW36	00000000	00000000	00000000	00000000	00000000	00000000
SW37	00000000	00000000	00000000	00000000	00000000	00000000
SW38	00000000	00000000	00000000	00000000	00000000	00000000
SW39	00000000	00000000	00000000	00000000	00000000	00000000
SW40	00000000	00000000	00000000	00000000	00000000	00000000
SW41	00000000	00000000	00000000	00000000	00000000	00000000
SW42	00000000	00000000	00000000	00000000	00000000	00000000
SW43	00000000	00000000	00000000	00000000	00000000	00000000
SW44	00000000	00000000	00000000	00000000	00000000	00000000
SW45	00000000	00000000	00000000	00000000	00000000	00000000
SW46	00000000	00000000	00000000	00000000	00000000	00000000
SW47	00000000	00000000	00000000	00000000	00000000	00000000
SW48	00000000	00000000	00000000	00000000	00000000	00000000
SW49	00000000	00000000	00000000	00000000	00000000	00000000
SW50	00000000	00000000	00000000	00000000	00000000	00000000
#2 MENU						
05:	OFF	OFF	OFF	OFF	OFF	OFF
06:	DIAL	DIAL	DIAL	DIAL	DIAL	DIAL
07:	10	10	10	11	13	10
08:	3429	3429	3429	3429	3429	3429
09:	33.6	33.6	33.6	33.6	33.6	33.6
10:	25 Hz	25 Hz	25 Hz	25 Hz	25 Hz	25 Hz

TYPE	FRANCE	SINGAPORE	CZ ECH	SLOVENIA	CANADA	J APAN
#1 SSSW						
SW01	00010000	00010000	00010000	00010000	00000000	00010000
SW02	00000000	00000000	00000000	00000000	00000000	00000000
SW03	00000000	00000000	00000000	00000000	00000000	00000000
SW04	00000010	10000000	10000000	10000000	10000000	10000000
SW05	00000000	00000000	00000000	00000000	00000000	00000000
SW06	10000000	10000000	10000000	10000000	10010000	10000000
SW07	00000000	00000000	00000000	00000000	00000000	00000000
SW08	00000000	00000000	00000000	00000000	00000000	00000000
SW09	00000000	01000000	00000000	00000000	00000000	01000000
SW10	00000000	00000000	00000000	00000000	00000000	00000000
SW11	00000000	00000000	00000000	00000000	00000000	00000000
SW12	00000010	00000010	00000010	00000010	00000010	00000010
SW13	00000000	00000000	00000000	00000000	00000000	00000000
SW14	00000000	00000000	00000000	00000000	00000000	00000000
SW15	00000000	00000000	00000000	00000000	00000000	00000000
SW16	00000011	00000011	00000011	00000011	00000011	00000011
SW17	00000000	00000000	00000000	00000000	00000000	00000000
SW18	00000000	00000000	00000000	00000000	00000000	00000000
SW19	00000000	00000000	00000000	00000000	00000000	00000000
SW20	10000000	10000000	10000000	10000000	10000000	10000000
SW21	00000000	00000000	00000000	00000000	00000000	00000000
SW22	00000000	00000000	00000000	00000000	00000000	00000000
SW23	00000000	00000000	00000000	00000000	00000000	00000000
SW24	00000000	00000000	00000000	00000000	00000000	00000000
SW25	00001001	00001000	00001000	00001000	00001000	00000000
SW26	00000000	00000000	00000000	00000000	00000000	00000000
SW27	00000000	00000000	00000000	00000000	00000000	00000000
SW28	00000000	00000000	00000000	00000000	00000000	00000000
SW29	00000000	00000000	00000000	00000000	00000000	00000000
SW30	00000000	00000000	00000000	00000000	00000000	00000000

TYPE	FRANCE	SINGAPORE	CZ ECH	SLOVENIA	CANADA	J APAN
SW31	00000000	00000000	00000000	00000000	00000000	00000000
SW32	00000000	00000000	00000000	00000000	00000000	00000001
SW33	00000000	00000000	00000000	00000000	00000000	00000000
SW34	00000000	00000000	00000000	00000000	00000000	00000000
SW35	00000000	00000000	00000000	00000000	00000000	00000000
SW36	00000000	00000000	00000000	00000000	00000000	00000000
SW37	00000000	00000000	00000000	00000000	00000000	00000000
SW38	00000000	00000000	00000000	00000000	00000000	00000000
SW39	00000000	00000000	00000000	00000000	00000000	00000000
SW40	00000000	00000000	00000000	00000000	00000000	00000000
SW41	00000000	00000000	00000000	00000000	00000000	00000000
SW42	00000000	00000000	00000000	00000000	00000000	00000000
SW43	00000000	00000000	00000000	00000000	00000000	00000000
SW44	00000000	00000000	00000000	00000000	00000000	00000000
SW45	00000000	00000000	00000000	00000000	00000000	00000000
SW46	00000000	00000000	00000000	00000000	00000000	00000000
SW47	00000000	00000000	00000000	00000000	00000000	00000000
SW48	00000000	00000000	00000000	00000000	00000000	00000000
SW49	00000000	00000000	00000000	00000000	00000000	00000000
SW50	00000000	00000000	00000000	00000000	00000000	00000000
#1 MENU						
05:	OFF	OFF	OFF	OFF	OFF	OFF
06:	DIAL	DIAL	DIAL	DIAL	DIAL	DIAL
07:	10	10	10	10	10	10
08:	3429	3429	3429	3429	3429	3429
09:	33.6	33.6	33.6	33.6	33.6	33.6
10:	50 Hz	25 Hz	25 Hz	25 Hz	25 Hz	25 Hz

TYPE	RUSSIA	ASIA	POLAND	EUROPE2	STANDARD
#1 SSSW					
SW01	00010000	00010000	00010000	00010000	00010000
SW02	00000000	00000000	00000000	00000000	00000000
SW03	00000000	00000000	00000000	00000000	00000000
SW04	10000000	10000000	10000000	10000000	10000000
SW05	00000000	00000000	00000000	00000000	00000000
SW06	10000000	10000000	10000000	10000000	10000000
SW07	00000000	00000000	00000000	00000000	00000000
SW08	00000000	00000000	00000000	00000000	00000000
SW09	00000000	00000000	00000000	00000000	00000000
SW10	00000000	00000000	00000000	00000000	00000000
SW11	00000000	00000000	00000000	00000000	00000000
SW12	00000010	00000010	00000010	00000010	00000010
SW13	00000000	00000000	00000000	00000000	00000000
SW14	00000000	00000000	00000000	00000000	00000000
SW15	00000000	00000000	00000000	00000000	00000000
SW16	00000011	00000011	00000011	00000011	00000011
SW17	00000000	00000000	00000000	00000000	00000000
SW18	00000000	00000000	00000000	00000000	00000000
SW19	00000000	00000000	00000000	00000000	00000000
SW20	10000000	10000000	10000000	10000000	10000000
SW21	00000000	00000000	00000000	00000000	00000000
SW22	00000000	00000000	00000000	00000000	00000000
SW23	00000000	00000000	00000000	00000000	00000000
SW24	00000000	00000000	00000000	00000000	00000000
SW25	00001000	00001000	00001000	00001000	00001000
SW26	00000000	00000000	00000000	00000000	00000000
SW27	00000000	00000000	00000000	00000000	00000000
SW28	00000000	00000000	00000000	00000000	00000000
SW29	00000000	00000000	00000000	00000000	00000000
SW30	00000000	00000000	00000000	00000000	00000000

TYPE	RUSSIA	ASIA	POLAND	EUROPE2	STANDARD
SW31	00000000	00000000	00000000	00000000	00000000
SW32	00000000	00000000	00000000	00000000	00000000
SW33	00000000	00000000	00000000	00000000	00000000
SW34	00000000	00000000	00000000	00000000	00000000
SW35	00000000	00000000	00000000	00000000	00000000
SW36	00000000	00000000	00000000	00000000	00000000
SW37	00000000	00000000	00000000	00000000	00000000
SW38	00000000	00000000	00000000	00000000	00000000
SW39	00000000	00000000	00000000	00000000	00000000
SW40	00000000	00000000	00000000	00000000	00000000
SW41	00000000	00000000	00000000	00000000	00000000
SW42	00000000	00000000	00000000	00000000	00000000
SW43	00000000	00000000	00000000	00000000	00000000
SW44	00000000	00000000	00000000	00000000	00000000
SW45	00000000	00000000	00000000	00000000	00000000
SW46	00000000	00000000	00000000	00000000	00000000
SW47	00000000	00000000	00000000	00000000	00000000
SW48	00000000	00000000	00000000	00000000	00000000
SW49	00000000	00000000	00000000	00000000	00000000
SW50	00000000	00000000	00000000	00000000	00000000
#1 MENU					
05:	OFF	OFF	OFF	OFF	OFF
06:	DIAL	DIAL	DIAL	DIAL	DIAL
07:	10	10	10	10	10
08:	3429	3429	3429	3429	3429
09:	33.6	33.6	33.6	33.6	33.6
10:	25 Hz	25 Hz	25 Hz	25 Hz	25 Hz

TYPE	U.S.A.	EUROPE	U.K.	SWEDEN	SWISS	AUSTRIA
#3						
NUMERIC						
Param						
01:	0	0	0	0	0	0
02:	10	10	10	10	10	10
03:	15	15	15	15	15	15
04:	12	12	12	12	12	12
05:	4	4	4	4	4	4
06:	4	4	1	4	4	4
07:	350	350	350	350	350	350
08:	0	0	0	0	0	0
09:	6	6	6	6	6	6
10:	5500	5500	5500	5500	5500	5500
11:	3500	3500	3500	3500	3500	3500
12:	0	0	0	0	0	0
13:	1300	1300	1300	1300	1300	1300
14:	0	0	0	0	0	0
15:	120	120	120	120	120	120
16:	4	2	2	2	2	2
17:	100	100	100	100	100	100
18:	0	0	0	0	0	0
19:	200	400	400	400	400	400
20:	100	100	100	100	100	100
21	0	0	0	0	0	0
22:	200	400	400	400	400	400
23:	44	44	44	44	44	44
24:	20	10	10	10	10	10
25:	60	60	60	60	60	60
26:	44	44	44	44	44	44
27:	0	0	0	0	0	0

TYPE	DENMARK	NORWAY	HOLLAND	BELGIUM	AUSTRALIA	FINLAND
#3 NUMERIC Param						
01:	0	0	0	0	0	0
02:	10	10	10	10	10	10
03:	15	15	15	15	15	15
04:	12	12	12	12	12	12
05:	4	4	4	4	4	4
06:	4	4	4	4	4	4
07:	350	350	350	350	350	350
08:	0	0	0	0	0	0
09:	6	6	6	6	6	6
10:	5500	5500	5500	5500	5500	5500
11:	3500	3500	3500	3500	3500	3500
12:	0	0	0	0	0	0
13:	1300	1300	1300	1300	1300	1300
14:	0	0	0	0	0	0
15:	120	120	120	120	120	120
16:	2	2	2	2	2	2
17:	100	100	100	100	100	100
18:	0	0	0	0	0	0
19:	400	400	400	400	400	400
20:	100	100	100	100	100	100
21	0	0	0	0	0	0
22:	400	400	400	400	400	400
23:	44	44	44	44	44	44
24:	10	10	10	10	10	12
25:	60	60	60	60	60	60
26:	44	44	44	44	44	44
27:	0	0	0	0	0	0

TYPE	N.Z	ITALY	SPAIN	PORTUGAL	IRELAND	HONG KONG
#3 NUMERIC Param						
01:	0	0	0	0	0	0
02:	10	10	10	10	10	10
03:	15	15	15	15	15	15
04:	12	12	12	12	12	12
05:	4	4	15	4	4	4
06:	4	4	3	4	4	1
07:	350	350	350	350	350	350
08:	0	0	0	0	0	0
09:	6	6	6	6	6	6
10:	5500	5500	5500	5500	5500	5500
11:	3500	3500	3500	3500	3500	3500
12:	0	0	0	0	0	0
13:	1300	1300	1300	1300	1300	1300
14:	0	0	0	0	0	0
15:	120	120	120	120	120	120
16:	2	2	2	2	2	2
17:	100	100	100	100	100	100
18:	0	0	0	0	0	0
19:	400	400	400	400	400	400
20:	100	100	100	100	100	100
21	0	0	0	0	0	0
22:	400	400	400	400	400	400
23:	44	44	44	44	44	44
24:	10	10	10	10	10	10
25:	60	60	60	60	60	60
26:	44	44	44	44	44	44
27:	0	0	0	0	0	0

TYPE	MALAYSIA	HUNGARY	SAF	KOREA	CHINA	GERMAN
#3 NUMERIC Param						
01:	0	0	0	0	0	0
02:	10	10	10	10	10	8
03:	15	15	15	15	15	15
04:	12	12	12	12	12	6
05:	4	4	4	4	4	4
06:	4	4	4	4	4	4
07:	350	350	350	350	350	350
08:	0	0	0	0	0	0
09:	6	6	6	6	6	6
10:	5500	5500	5500	5500	4300	9000
11:	3500	3500	3500	3500	3500	3500
12:	0	0	0	0	0	0
13:	1300	1300	1300	1300	1200	1300
14:	0	0	0	0	0	0
15:	120	120	120	120	120	120
16:	2	2	2	2	2	2
17:	100	100	100	100	100	100
18:	0	0	0	0	0	0
19:	400	400	400	400	400	400
20:	100	100	100	100	100	100
21	0	0	0	0	0	0
22:	400	400	400	400	400	400
23:	44	44	44	44	44	44
24:	10	10	10	10	10	10
25:	60	60	60	60	60	60
26:	44	44	44	44	44	44
27:	0	0	0	0	0	0

TYPE	FRANCE	SINGAPORE	CZ ECH	SLOVENIA	CANADA	J APAN
#3 NUMERIC Param						
01:	0	0	0	0	0	0
02:	8	10	10	10	10	10
03:	15	15	15	15	15	15
04:	12	12	12	12	12	12
05:	4	4	4	4	4	4
06:	4	4	4	4	4	4
07:	350	350	350	350	350	350
08:	0	0	0	0	0	0
09:	6	6	6	6	6	6
10:	5500	5500	5500	5500	5500	5500
11:	3800	3500	3500	3500	3500	3500
12:	0	0	0	0	0	0
13:	1300	1300	1300	1300	1300	1300
14:	0	0	0	0	0	0
15:	120	120	120	120	120	120
16:	2	2	2	2	4	4
17:	100	100	100	100	100	100
18:	0	0	0	0	0	0
19:	400	400	400	400	200	200
20:	100	100	100	100	100	100
21	0	0	0	0	0	0
22:	400	400	400	400	200	200
23:	44	44	44	44	44	44
24:	10	10	10	10	20	15
25:	60	60	60	60	60	60
26:	44	44	44	44	44	44
27:	0	0	0	0	0	0

TYPE	RUSSIA	ASIA	POLAND	EUROPE2	STANDARD
#3 NUMERIC Param					
01:	0	0	0	0	0
02:	10	10	10	10	10
03:	15	15	15	15	15
04:	12	12	12	12	12
05:	4	4	4	4	4
06:	4	4	4	4	4
07:	350	350	350	350	350
08:	0	0	0	0	0
09:	6	6	6	6	6
10:	5500	5500	5500	5500	5500
11:	3500	3500	3500	3500	3500
12:	0	0	0	0	0
13:	1300	1300	1300	1300	1300
14:	0	0	0	0	0
15:	120	120	120	120	120
16:	2	2	2	2	2
17:	100	100	100	100	100
18:	0	0	0	0	0
19:	400	400	400	400	400
20:	100	100	100	100	100
21	0	0	0	0	0
22:	400	400	400	400	400
23:	44	44	44	44	44
24:	10	10	10	10	10
25:	60	60	60	60	60
26:	44	44	44	44	44
27:	0	0	0	0	0

3-6 Test Mode / Factory Mode

This machine is equipped with the test mode to check operations of various functions listed below. To enter into the test mode, select TEST MODE in the menu items of the service data and press the OK button.
To enter into the FACTORY MODE, press the Menu button after entering into the TEST MODE.
To end the TEST MODE and the FACTORY MODE, press the Stop/Reset button. Then turn the power OFF/ON with the power button.

3-6-1 Test Mode / FACTORY Mode Overview

Test mode and FACTORY Mode can be executed by following the menu items from the display.

a) PRINT EEPROM (Test mode)

Can confirm EEPROM information in the printer. Select [3] PRINTER - [4] EEPROM from the test mode menu, and press the OK button. For the details, please refer to [3-8 Confirmation/3-8-6 EEPROM information print] .

b) CD-R calibration (Test mode)

Compensates for label recognition in printing a CD-R label.

c) PANEL (FACTORY MODE)

Tests the functions of operation panel.

d) PRINTER SHUKKEN (FACTORY MODE)

Prints test patterns within the print area.

3-6-2 Test Mode Menu

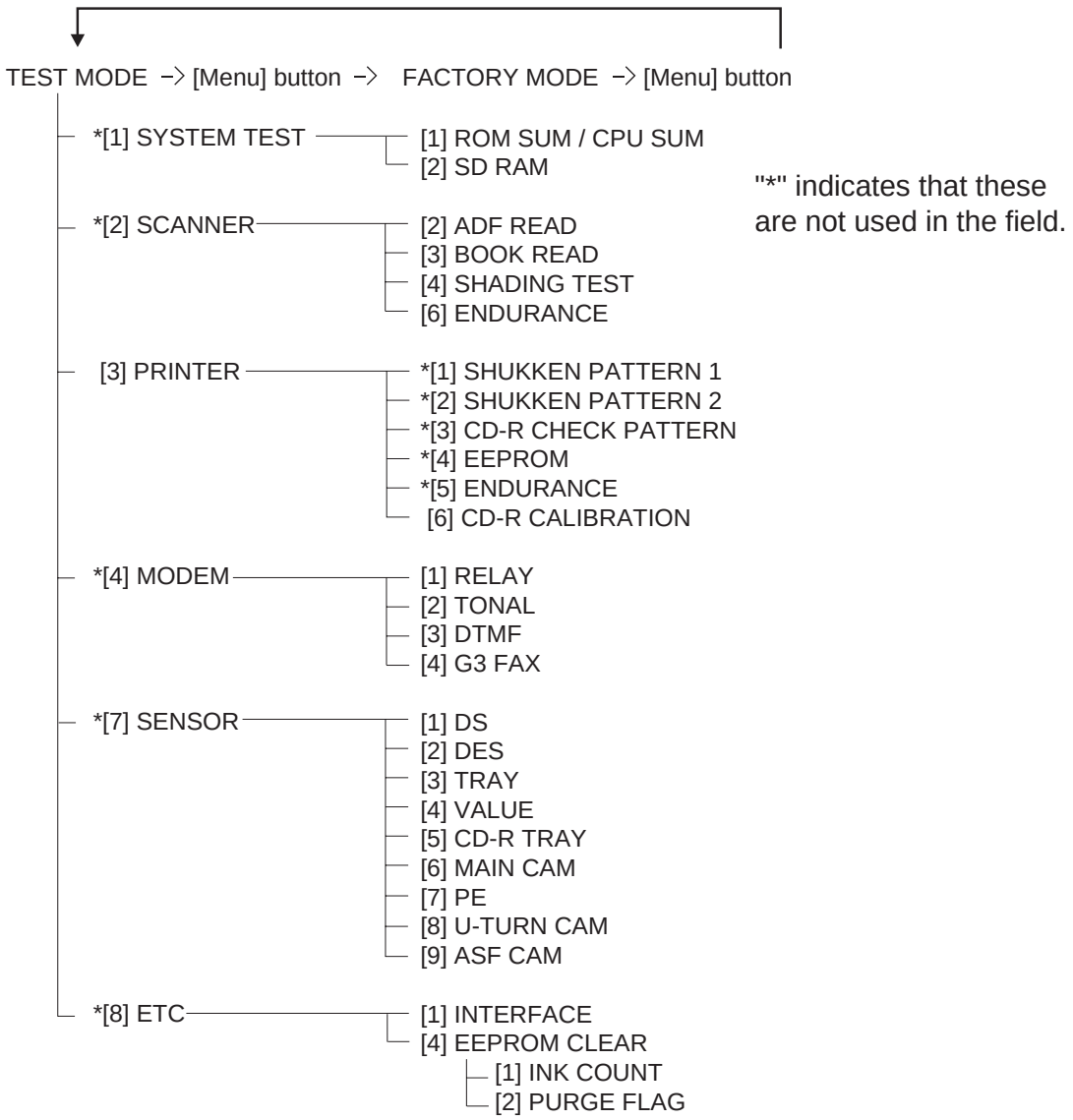


Figure 1-41 Test Mode (1/2)

3-6-3 FACTORY Mode Menu

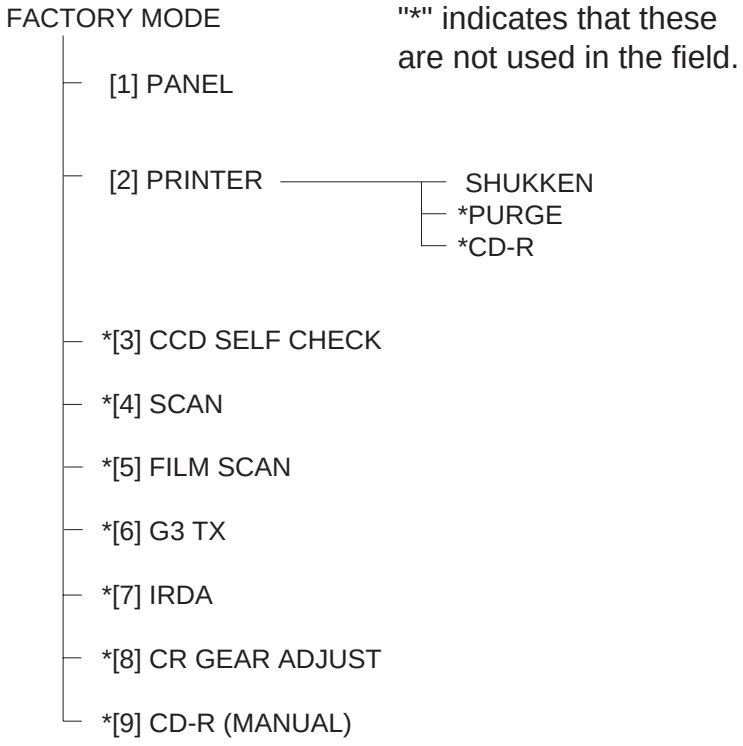


Figure 1-42 Factory Mode

3-6-4 Operation Panel Tests

If you select test menu in the FACTORY mode, [1] PANEL is displayed. To select the test menu, press the OK button. In this test, check that the display, LED lamps, and keys on the control panel are operating correctly.

(a) Display test

If you press Color Start key in the menu of the operation panel, 20 letters of "H" are displayed in two lines. If you press Color Start key one more time, all the LCD dots are displayed. If you press Color Start key once again, "_ " is displayed. Verify that there are no LCD dots which fail to be displayed by performing this operation.

(b) LED lamp test

The LED lamp test is selected by pressing the Color Start key after the display test.

When the Color Start key is pressed, all the lamps on the control panel light. Check for any LED that does not light during the test.

(c) Operation key test

The Operation key test is selected by pressing the Color Start key after the LED lamp test.

In this test, you press the key corresponding to the displayed character to put it out. The table giving the correspondence between the characters and the keys is below.

Character	Operation key	Character	Operation key
1-#	Numeric keys	O	ON/OFF
M	Menu	E	OK button
-	- button	+	+ button
P	Paper button	L	Collate button
N	Enlarge/Reduce button	P	PHOTO button
S	SCAN button	X	FAX button (MP780 only)
C	COPY button	F	Feed Switch button
I	Image Quality button	O	Exposure
T	Two-Sided button	A	2 on 1 button
H	Hook button (MP780 only)	D	Coded button (MP780 only)
R	Redial/Pause button (MP780 only)	N	Black button
C	Color button	S	Stop/Reset button
a-h	One-Touch Speed Dial Key (MP780 only)		

(d) One-touch speed dial test (MP780 only)

When all the characters displayed have gone out, the system next starts the one-touch speed dialing key test. The letters a-j are displayed on the display, corresponding to one-touch speed dialing keys 01-10. Each letter displayed on the display goes out when its corresponding one-touch speed dialing key is pressed.

In this test, check for operation keys whose corresponding character or letter does not go out when the key is pressed.

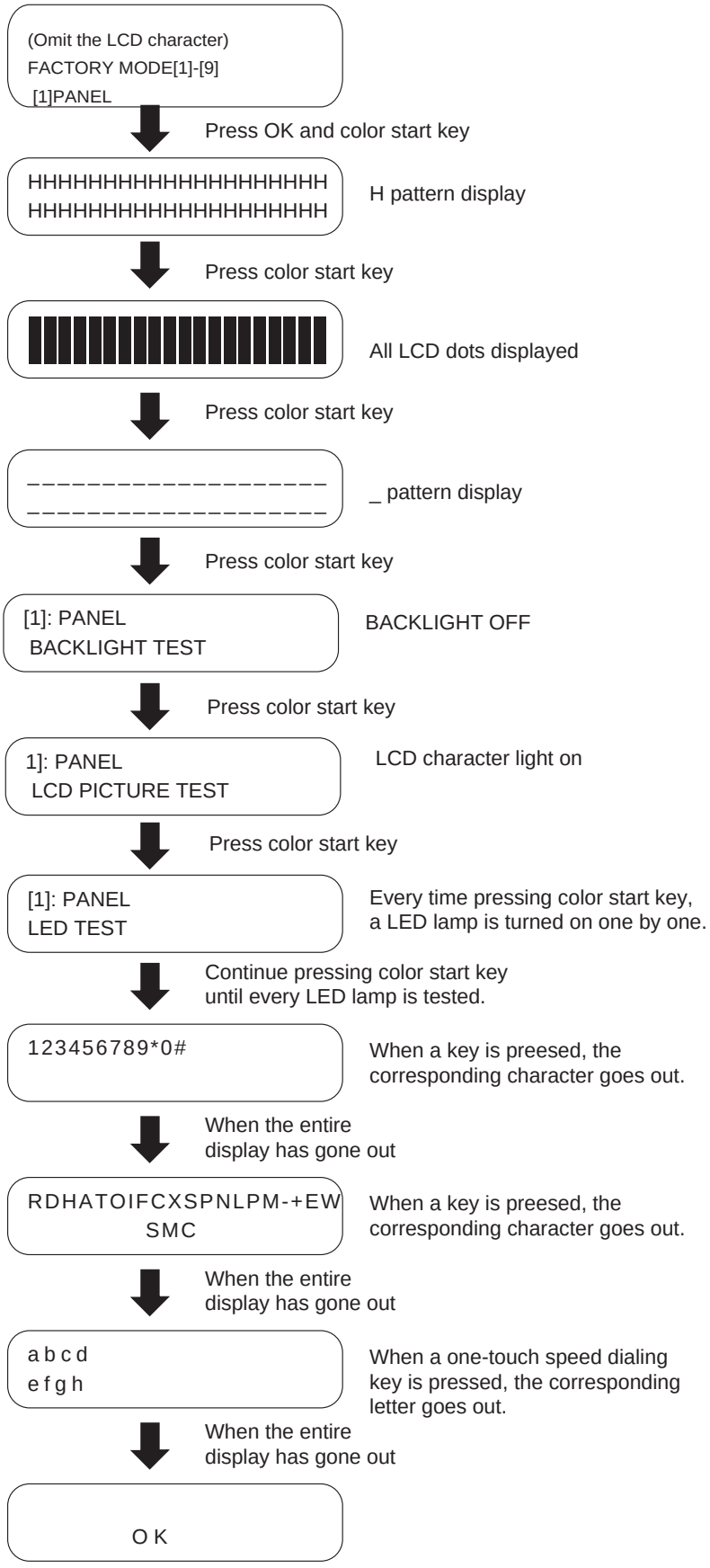


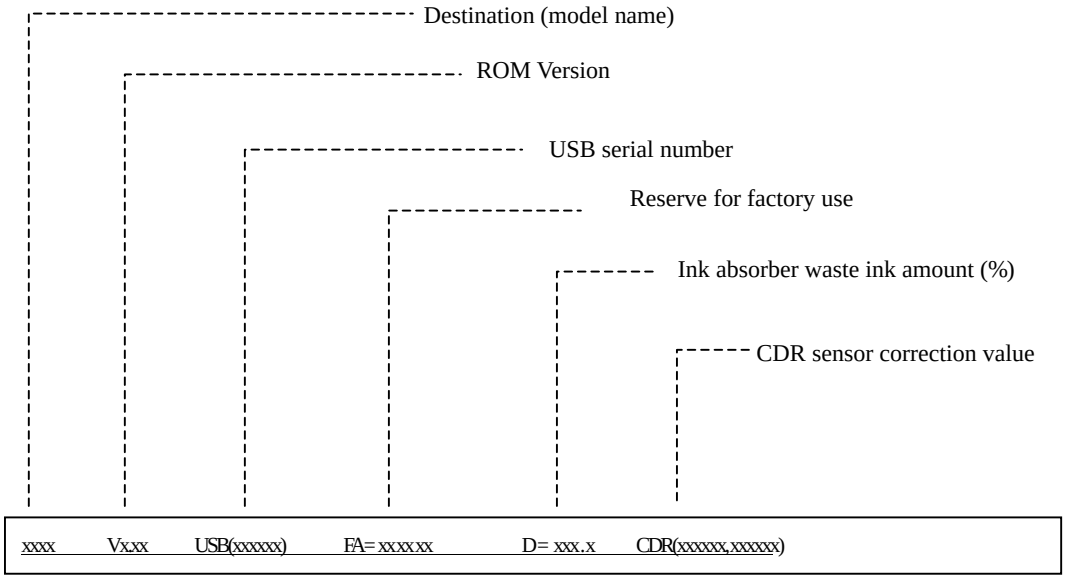
Figure 1-43 Panel test

3-6-5 PRINT TEST

Select SHUKKEN of the PRINTER test from the FACTORY MODE menu to print out the print pattern. The following items can be checked in the print pattern.

< EEPROM information contents>

On the service test print (sample below), confirm the EEPROM information as shown below. (The information is given in the upper portion of the printout.)



< Print check items>

On the service test print (sample below), confirm the following items:

Check 1 noz z le check pattern: Inkshall be ejected from all noz z les

Check 2 top of form accuracy: The line shall not extend off the paper.

Check 3 vertical straight lines: The line shall not be broken.

Check 4 halftone: There shall be no remarkable streaks or unevenness.

< Service test print sample>

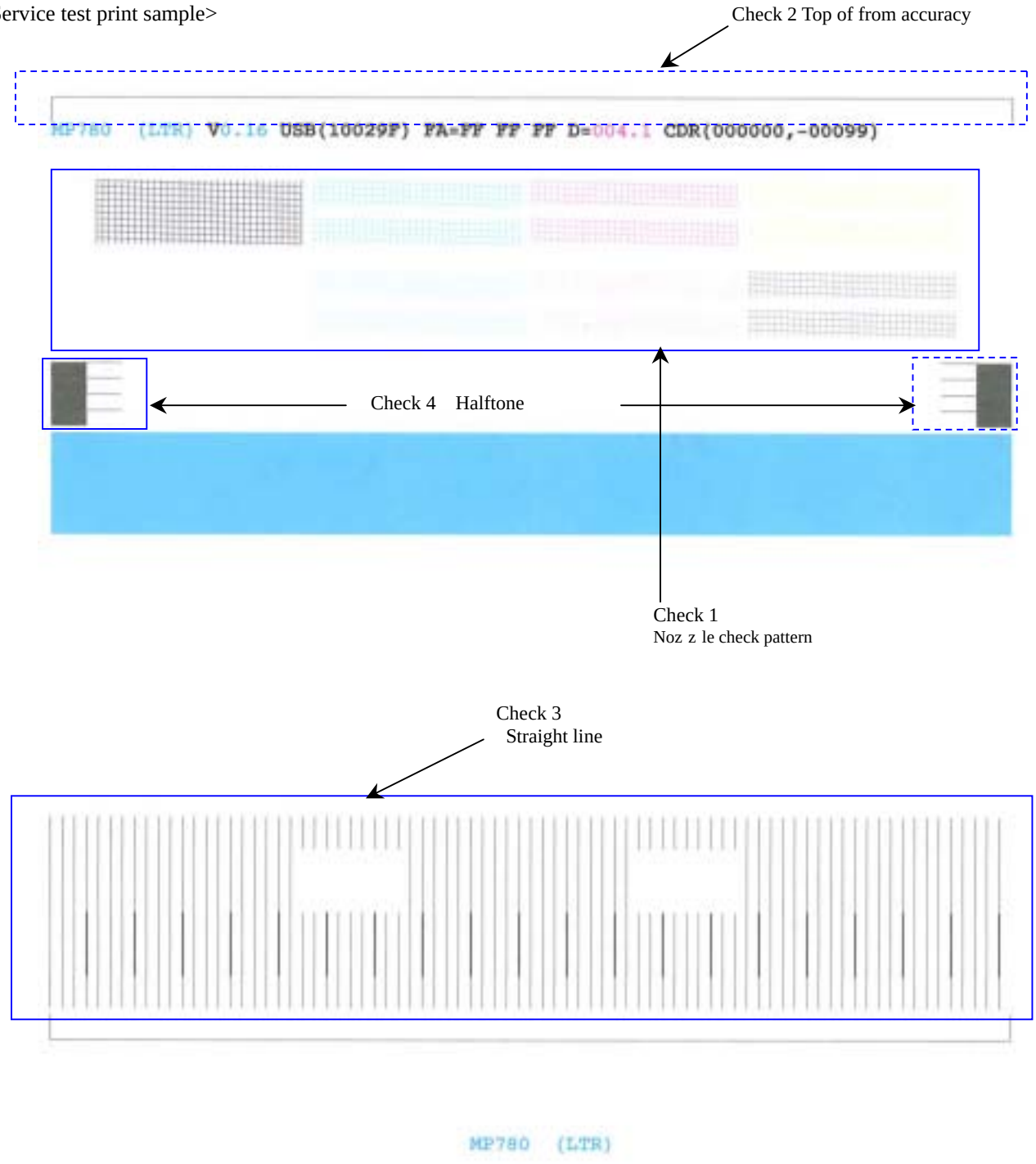


Figure 1-44 Service test print

3-6-6 CD-R Calibration

When SPCNT board ass'y, CD-R tray, or a unit or a part of printer (such as Carriage unit, Pump unit) is replaced, perform the CD-R calibration as follows (registration of CDR sensor compensation value data).

1. Place A4 plain paper on the Auto Sheet Feeder.
2. From the TEST MODE menu, perform [3] PRINTER - [6] CD-R CALIBRATION to print out a blank paper.
3. From the TEST MODE menu, perform [3] PRINTER[4] EEPROM to print out the information and check the CDRS (XXX) item. If a numeric value appears, it means OK. If (000) appears, it means NG. (Refer to 3-7-7 EEPROM Information Print.)
   If it is NG, repeat the procedure of 1. to 3. shown above, or replace the unit.

3-7 Upgrading the version of SPCNT flash ROM

To upgrade the version of flash ROM, always down load via USB interface.

< Flash ROM upgrading file>

The flash ROM upgrading file will be distributed in SSIS at the timing of upgrading the version.

< Upgrading Procedure>

The detailed upgrading procedure will be introduced by a Service Information bulletin when the version is upgraded.

[Prerequisite (reference)]

- Printer to Personal Computer:
  Connect via USB cable. (Connect only one printer to the computer.)
- Environment to be used, OS:
  Windows 2000/XP
- Printer driver:
  Should be installed in advance.
- Main Unit Mode when down loading the upgrading file:
  Set "1" at [# 1 SSSW] -[SW29] -[Bit 1] of the service data for the flash ROM upgrading mode.

3-8 Verification Items

3-8-1 User report output functions (MP780 only)

The machine can output user reports manually by user operation, or automatically, according to user data settings.

(1) Manual output of reports by user operation

Report type	Operations
1-touch list	Press Fax key, press the Menu key select the REPORTS/ LIST using the right/left cursor key. Press the Set key. Using the right/left cursor key, select the type of report to generate, and press the Set key.
Coded dial list	
Group dial list	
User's data list	
Activity report	
Document memory list	

(2) Reports output automatically by user data registration

Each report written below can be automatically output by specifying "REPORT SETTINGS" in user data registration.

Transmission report

Reception report

Activity report

REFERENCE:

For samples of user reports, see the *User's Guide*.

NOTE:

ROM Version display

The ROM version is printed on the top left hand side of the User's data list.

Please refer to this when troubleshooting.

example:

V0.20 MAIN-ROM-version

CAUTION:

Memory clear report

If this machine is powered off with image data remaining in the memory, the machine does not output the memory clear list when it is powered on next time.

3-8-2 Service report output functions (MP780 only)

This machine outputs the service data setting status, past communications history reports, detailed error information reports, etc. by operating the service data.

(1) List of service reports

This machine outputs the service reports shown below.

Report type	Operations
Service data list	In the service data, select SERVICE REPORTS using the Right/Left cursor key, and press the OK key. Then, select the type of list to generate using the Right/Left cursor key, and press the OK key. The service report will be output.
System dump list	
Transmission report (with service error code and dump list)	If you set bits 0 and 1 of # 1 SSSW SW01 in the servicemode, the service error code and dump list are indicatedon the transmission report.
Reception report (with service error code and dump list)	If you set bits 0 and 1 of # 1 SSSW SW01 in the servicemode, the service error code and dump list are indicatedon the reception report.

3-8-3 System data list (MP780 only)

This list shows service data # 1~ # 5, # 7, # 9 setting statuses.The following is a sample list.

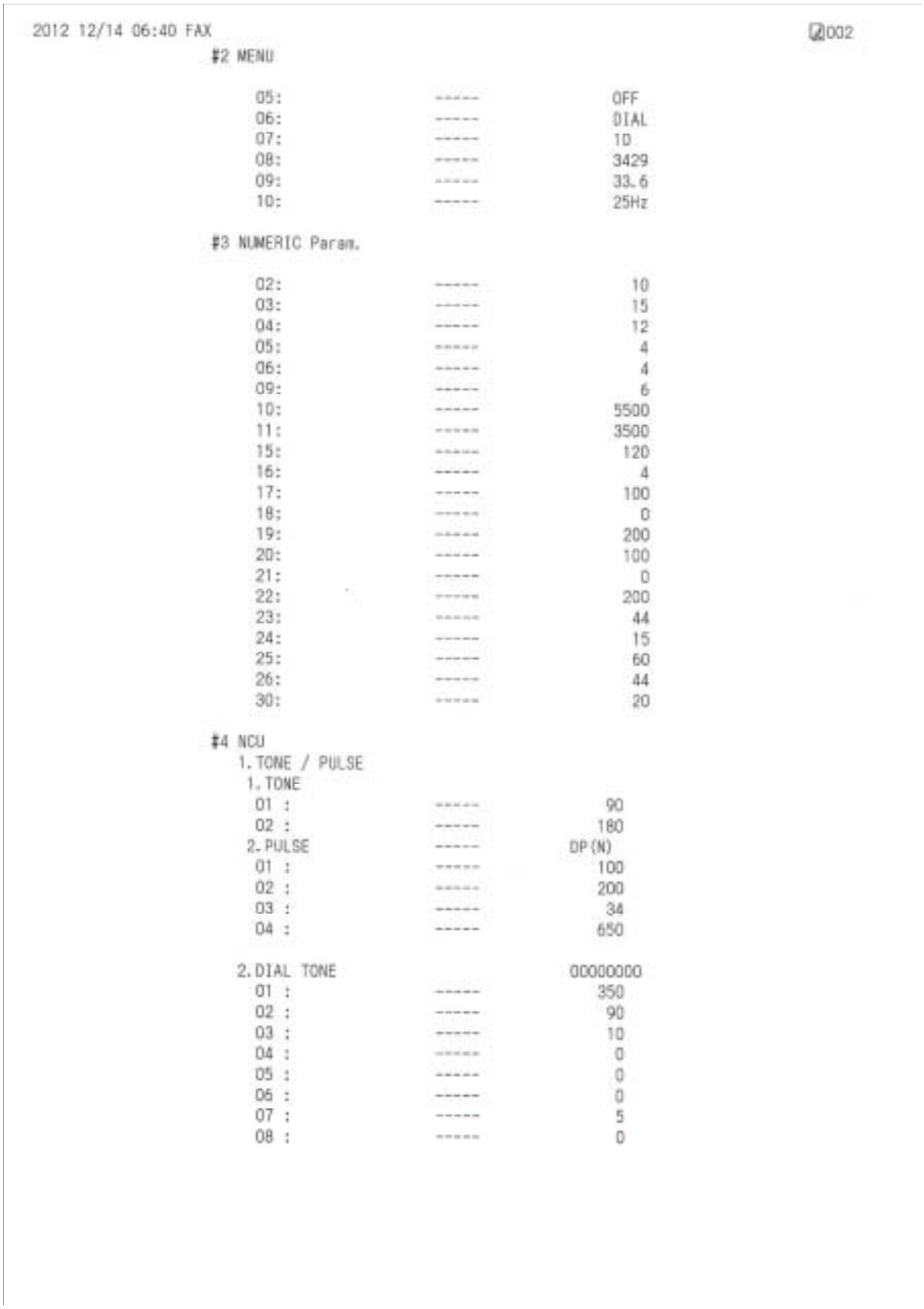
2012 12/14 06:40 FAX 001

****
*** SYSTEM DATA LIST ***
****

#1 SSSW

SW01	-----	00010000
SW02	-----	00000000
SW03	-----	00000000
SW04	-----	10000000
SW05	-----	00000000
SW06	-----	10000000
SW07	-----	00000000
SW08	-----	00000000
SW09	-----	01000000
SW10	-----	00000000
SW11	-----	00000000
SW12	-----	00000010
SW13	-----	00000000
SW14	-----	00000000
SW15	-----	00000000
SW16	-----	00000011
SW17	-----	00000000
SW18	-----	00000000
SW19	-----	00000000
SW20	-----	10000000
SW21	-----	00000000
SW22	-----	00000000
SW23	-----	00000000
SW24	-----	00000000
SW25	-----	00000000
SW26	-----	00000000
SW27	-----	00000000
SW28	-----	00000000
SW29	-----	00000000
SW30	-----	00000000
SW31	-----	00000000
SW32	-----	00000001
SW33	-----	00000000
SW34	-----	00000000
SW35	-----	00000000
SW36	-----	00000000
SW37	-----	00000000
SW38	-----	00000000
SW39	-----	00000000
SW40	-----	00000000
SW41	-----	00000000
SW42	-----	00000000
SW43	-----	00000000
SW44	-----	00000000
SW45	-----	00000000
SW46	-----	00000000
SW47	-----	00000000
SW48	-----	00000000
SW49	-----	00000000
SW50	-----	00000000

Figure 1-45 System Data List (1/7)



2012 12/14 06:40 FAX 002

#2 MENU

05:	-----	OFF
06:	-----	DIAL
07:	-----	1D
08:	-----	3429
09:	-----	33.6
10:	-----	25Hz

#3 NUMERIC Param.

02:	-----	10
03:	-----	15
04:	-----	12
05:	-----	4
06:	-----	4
09:	-----	6
10:	-----	5500
11:	-----	3500
15:	-----	120
16:	-----	4
17:	-----	100
18:	-----	0
19:	-----	200
20:	-----	100
21:	-----	0
22:	-----	200
23:	-----	44
24:	-----	15
25:	-----	60
26:	-----	44
30:	-----	20

#4 NCU

1.TONE / PULSE

1.TONE

01 :	-----	90
02 :	-----	180

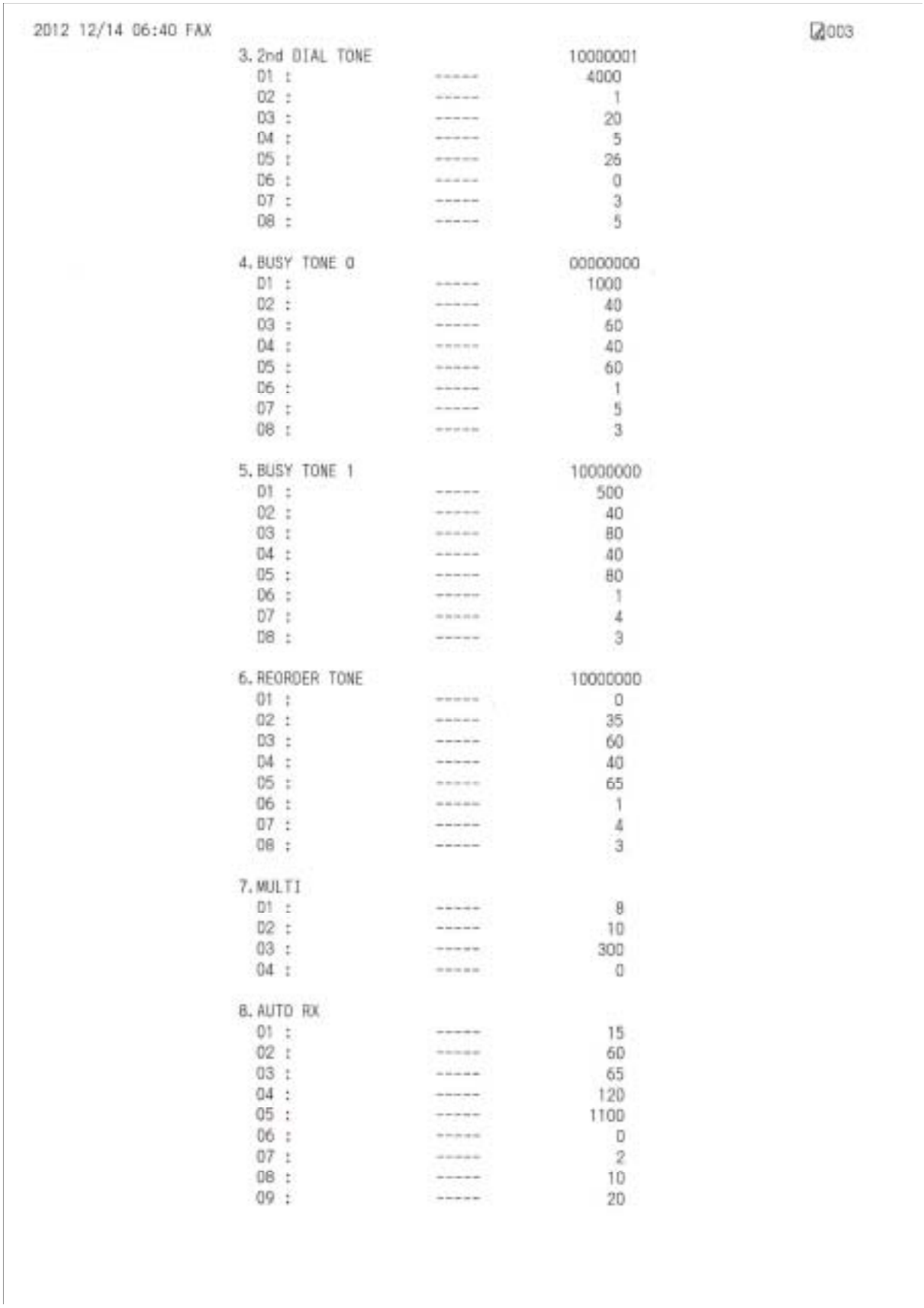
2.PULSE ----- DP(N)

01 :	-----	100
02 :	-----	200
03 :	-----	34
04 :	-----	650

2.DIAL TONE 00000000

01 :	-----	350
02 :	-----	90
03 :	-----	10
04 :	-----	0
05 :	-----	0
06 :	-----	0
07 :	-----	5
08 :	-----	0

Figure 1-46 System Data List (2/7)



2012 12/14 06:40 FAX 003

3. 2nd DIAL TONE		10000001
01 :	-----	4000
02 :	-----	1
03 :	-----	20
04 :	-----	5
05 :	-----	25
06 :	-----	0
07 :	-----	3
08 :	-----	5
4. BUSY TONE 0		00000000
01 :	-----	1000
02 :	-----	40
03 :	-----	60
04 :	-----	40
05 :	-----	60
06 :	-----	1
07 :	-----	5
08 :	-----	3
5. BUSY TONE 1		10000000
01 :	-----	500
02 :	-----	40
03 :	-----	80
04 :	-----	40
05 :	-----	80
06 :	-----	1
07 :	-----	4
08 :	-----	3
6. REORDER TONE		10000000
01 :	-----	0
02 :	-----	35
03 :	-----	60
04 :	-----	40
05 :	-----	65
06 :	-----	1
07 :	-----	4
08 :	-----	3
7. MULTI		
01 :	-----	8
02 :	-----	10
03 :	-----	300
04 :	-----	0
8. AUTO RX		
01 :	-----	15
02 :	-----	60
03 :	-----	65
04 :	-----	120
05 :	-----	1100
06 :	-----	0
07 :	-----	2
08 :	-----	10
09 :	-----	20

Figure 1-47 System Data List (3/7)

2012 12/14 06:40 FAX 004

9. CNG DETECT

01 :	-----	40
02 :	-----	60
03 :	-----	0
04 :	-----	0
05 :	-----	0
06 :	-----	80
07 :	-----	40
08 :	-----	65
09 :	-----	5
10 :	-----	0
11 :	-----	2
12 :	-----	70

10. SPECIAL

SW01	-----	00001100
SW02	-----	00000000
SW03	-----	00000000
SW04	-----	00000100
SW05	-----	00000000
SW06	-----	00000000
SW07	-----	00000100
SW08	-----	00100000
SW09	-----	00000000
SW10	-----	00000000
SW11	-----	00000000
SW12	-----	00000000
SW13	-----	00000000
SW14	-----	00000000
SW15	-----	00000000
SW16	-----	00110000
SW17	-----	00000000
SW18	-----	00000000
SW19	-----	00000000
SW20	-----	00000000
SW21	-----	00000000
SW22	-----	00000000
SW23	-----	00000000
SW24	-----	00000010
SW25	-----	00001000
SW26	-----	00000000
SW27	-----	00000000
SW28	-----	01000001
SW29	-----	00000010
SW30	-----	00000000

01 :	-----	5
02 :	-----	30
03 :	-----	30
04 :	-----	4
05 :	-----	150
06 :	-----	100
07 :	-----	6
08 :	-----	0
09 :	-----	0
10 :	-----	15

Figure 1-48 System Data List (4/7)

2012 12/14 06:41 FAX 005

11 :	-----	2
12 :	-----	8
13 :	-----	10
14 :	-----	60
15 :	-----	1000
16 :	-----	8
17 :	-----	45
18 :	-----	99
19 :	-----	0
20 :	-----	58
21 :	-----	0
22 :	-----	0
23 :	-----	0
24 :	-----	10
25 :	-----	25
26 :	-----	2
27 :	-----	2
28 :	-----	60
29 :	-----	0
30 :	-----	6
31 :	-----	176
32 :	-----	2
33 :	-----	90
34 :	-----	30
35 :	-----	2
36 :	-----	179
37 :	-----	120
38 :	-----	0
39 :	-----	0
40 :	-----	0
41 :	-----	0
42 :	-----	60
43 :	-----	0
44 :	-----	0
45 :	-----	0
46 :	-----	0
47 :	-----	10
48 :	-----	50
49 :	-----	0
50 :	-----	0

11. RKEY

01 :	-----	0
02 :	-----	0
03 :	-----	0

12. PBX DIAL TONE DDDDDDDD

01 :	-----	350
02 :	-----	90
03 :	-----	10
04 :	-----	0
05 :	-----	0
06 :	-----	0
07 :	-----	5
08 :	-----	0

Figure 1-49 System Data List (5/7)

2012 12/14 06:41 FAX 006

13.PBX BUSY TONE		00000000
01 :	-----	1000
02 :	-----	40
03 :	-----	60
04 :	-----	40
05 :	-----	60
06 :	-----	1
07 :	-----	5
08 :	-----	3
#5 TYPE		
TYPE	-----	JAPAN
#7 PRINTER		
SW01	-----	00000000
SW02	-----	00000011
SW03	-----	00000000
SW04	-----	00000000
SW05	-----	00000000
SW06	-----	00000100
SW07	-----	00000000
SW08	-----	00000000
SW09	-----	00000000
SW10	-----	00000000
SW11	-----	00000001
SW12	-----	00000000
SW13	-----	00000000
SW14	-----	00000000
SW15	-----	00000000
SW16	-----	00000000
SW17	-----	00000000
SW18	-----	00000000
SW19	-----	00000000
SW20	-----	01000000
01 :	-----	18
02 :	-----	0
03 :	-----	0
04 :	-----	0
05 :	-----	5
06 :	-----	49
07 :	-----	45
08 :	-----	90
09 :	-----	50
10 :	-----	0
11 :	-----	0
12 :	-----	0
13 :	-----	27
14 :	-----	30
15 :	-----	30
16 :	-----	30
17 :	-----	0
18 :	-----	0
19 :	-----	0
20 :	-----	0

Figure 1-50 System Data List (6/7)

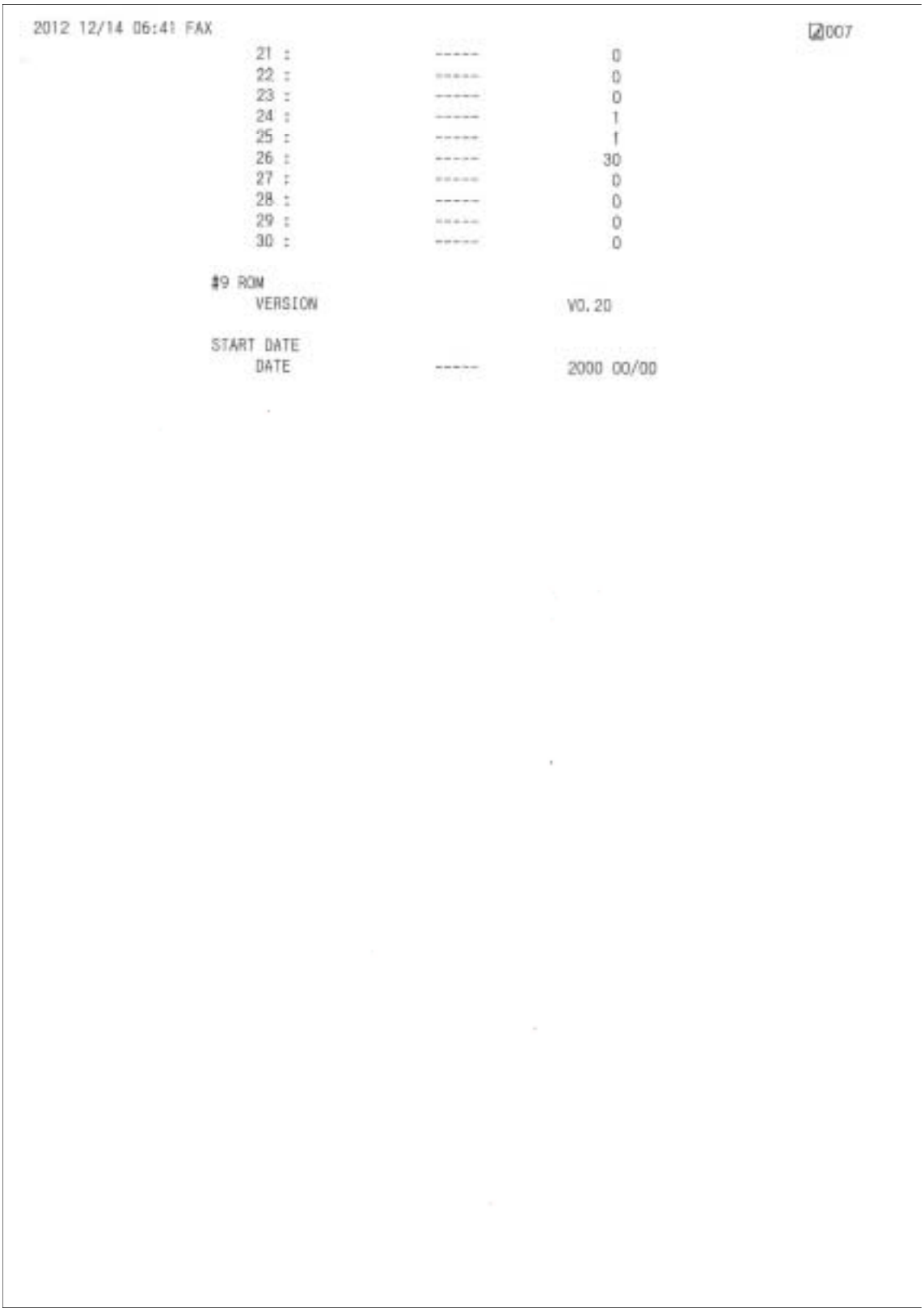
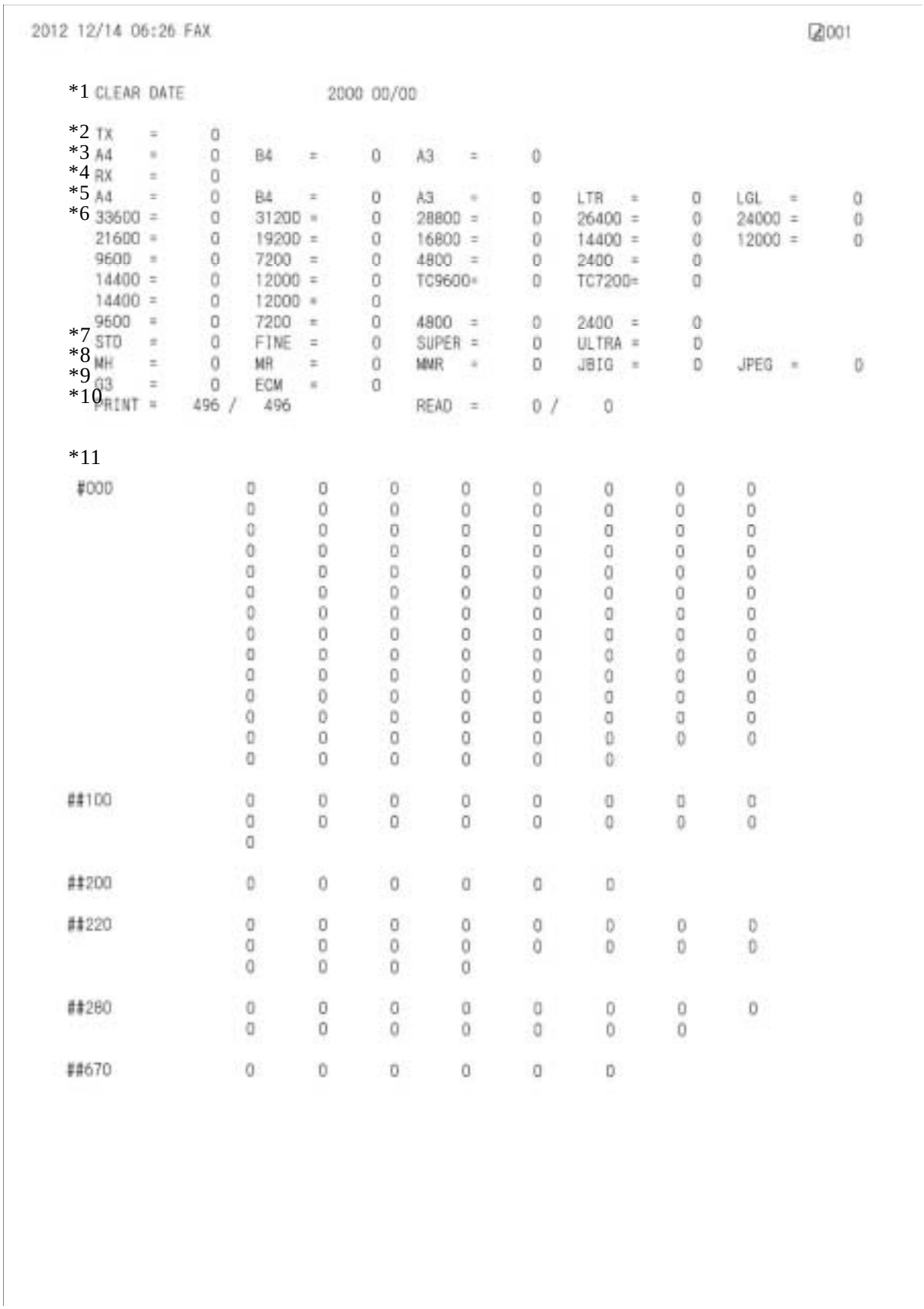


Figure 1-51 System Data List (7/7)

Note:

"START DATE" records the date when the fax performs its first transmission, after shipment from the factory.

3-8-4 System Dump List (MP780 only)



2012 12/14 06:26 FAX 001

*1 CLEAR DATE 2000 00/00

*2 TX = 0
*3 A4 = 0 B4 = 0 A3 = 0
*4 RX = 0
*5 A4 = 0 B4 = 0 A3 = 0 LTR = 0 LGL = 0
*6 33600 = 0 31200 = 0 28800 = 0 26400 = 0 24000 = 0
21600 = 0 19200 = 0 16800 = 0 14400 = 0 12000 = 0
9600 = 0 7200 = 0 4800 = 0 2400 = 0
14400 = 0 12000 = 0 TC9600= 0 TC7200= 0
14400 = 0 12000 = 0
9600 = 0 7200 = 0 4800 = 0 2400 = 0
*7 STD = 0 FINE = 0 SUPER = 0 ULTRA = 0
*8 MH = 0 MR = 0 MMR = 0 JBIG = 0 JPEG = 0
*9 G3 = 0 ECM = 0
*10 PRINT = 496 / 496 READ = 0 / 0

*11

#000 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0

##100 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0

##200 0 0 0 0 0 0

##220 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0

##280 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0

##670 0 0 0 0 0 0

Figure 1-52 System Dump List

* 1 : Date on which data was initializ ed with service data # 8 CLEAR, ALL

* 2 : Total number of transmission

* 3 : Total number of pages transmitted for each document siz e

* 4 : Total number of reception

* 5 : Total number of pages received for each document siz e

* 6 : Total number of pages transmitted and received for each modem speed

* 7 : Total number of pages transmitted and received for each mode

* 8 : Total number of pages transmitted and received for each coding method

* 9 : Total number of pages transmitted and received in each mode

* 10 : Total number of pages printed/scanned

[Display example]

PRINT = 30* /100* * READ = 30* /100* *

* Indicates the value input with Service Data # 8 CLEAR, COUNTER.

* * Indicates the value counted since shipment from the factory.

* 11 : Total number of occurrences for each error code

[Display example]

# # 280	1	7	3	0	0
	# # 280 errors	# # 281 errors	# # 282 errors		

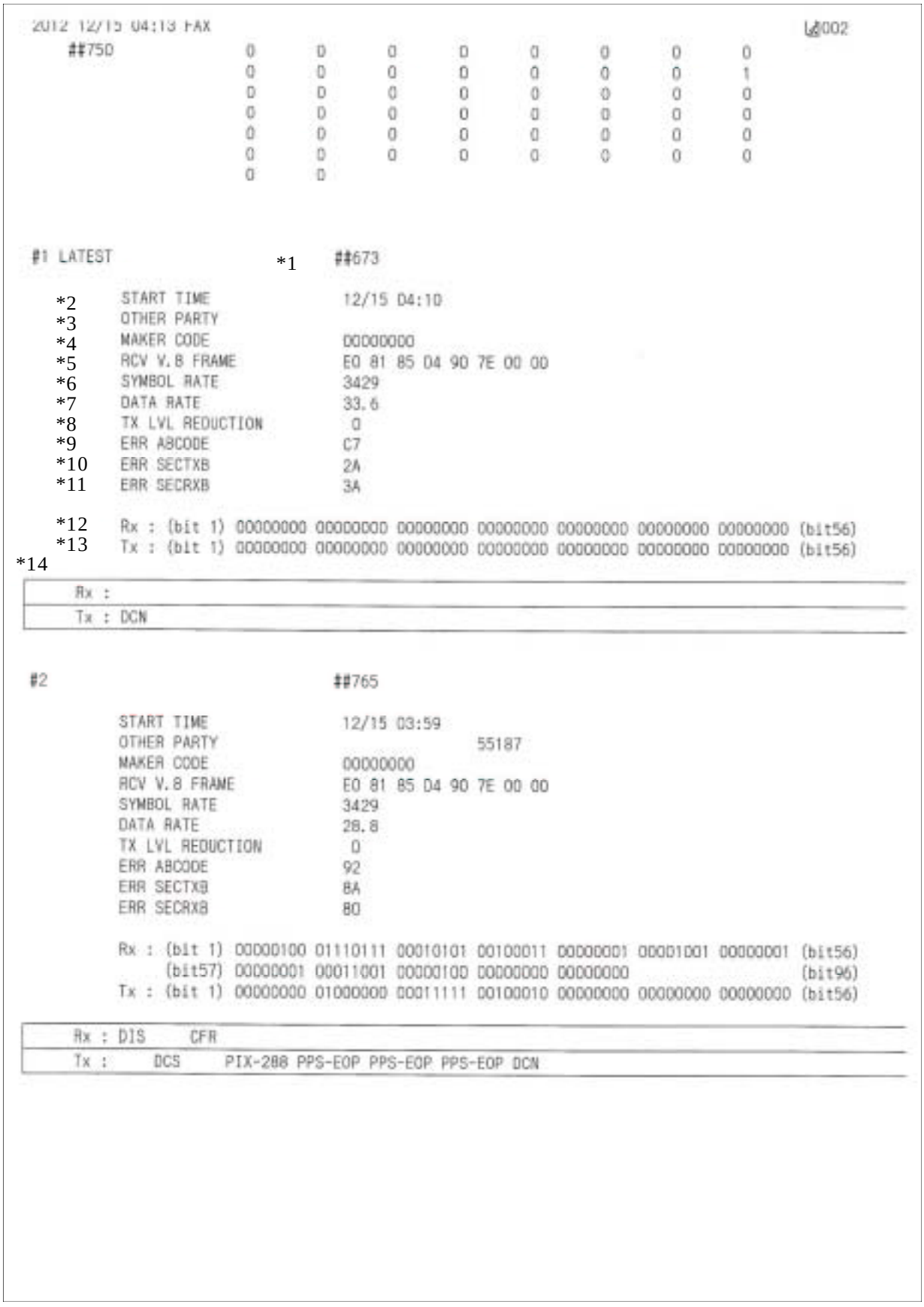


Figure 1-53 System Dump List

* 1 : Service error code
* 2 : Communication start date and time (on 24-hour display)
* 3 : Telephone number sent from other party
* 4 : Maker code
* 5 : Received V.8protocol signal
* 6 : Symbol rate used for the primary channel
* 7 : Transmission speed used for the primary channel
* 8 : 0 (Fixed)
* 9 : Code output by the modem when an error occurred (Not used in the field)
* 10 : Transmit status of the modem when an error occurred (Not used in the field)
* 11 : Receive status of the modem when anerror occurred (Not used in the field)
* 12 : Bit 1 to bit 96 of received DIS, DCS, or DTC
* 13 : Bit 1 to bit 96 of transmitted DIS, DCS, or DTC
* 14 : RX= Received protocol signal
TX= Transmitted protocol signal

NOTE:

When an error occurs in direct transmission, * 5 to * 11 will not be listed even if the other party's machine has a V.34 modem.

3-8-5 Service Activity Report (sending / receiving) (MP780 only)

09/16/2004 19:35 FAX 001

****
*** ERROR TX REPORT ***
****

TX FUNCTION WAS NOT COMPLETED

*1	TX/RX NO	0003	
*2	DESTINATION TEL #		55187
*3	DESTINATION ID		
*4	ST. TIME	09/16 19:35	
*5	TIME USE	00'40	
*6	PAGES SENT	0	
*7	RESULT	NG	##765

START TIME	09/16 19:35	
OTHER PARTY		55187
MAKER CODE	00000000	
RCV V.8 FRAME	E0 81 85 D4 90 7E 00 00	
SYMBOL RATE	3429	
DATA RATE	28.8	
TX LVL REDUCTION	0	
ERR ABCODE	92	
ERR SECTXB	8A	
ERR SECRXB	80	

Rx : (bit 1) 00000100 01110111 00010101 00100011 00000001 00001001 00000001 (bit56)
(bit57) 00000001 00011001 00000100 00000000 00000000 (bit96)
Tx : (bit 1) 00000000 01000000 00011111 00100010 00000000 00000000 00000000 (bit56)

Rx : DIS	CFR
Tx : DCS	PIX-288 PPS-EOP PPS-EOP PPS-EOP DCN

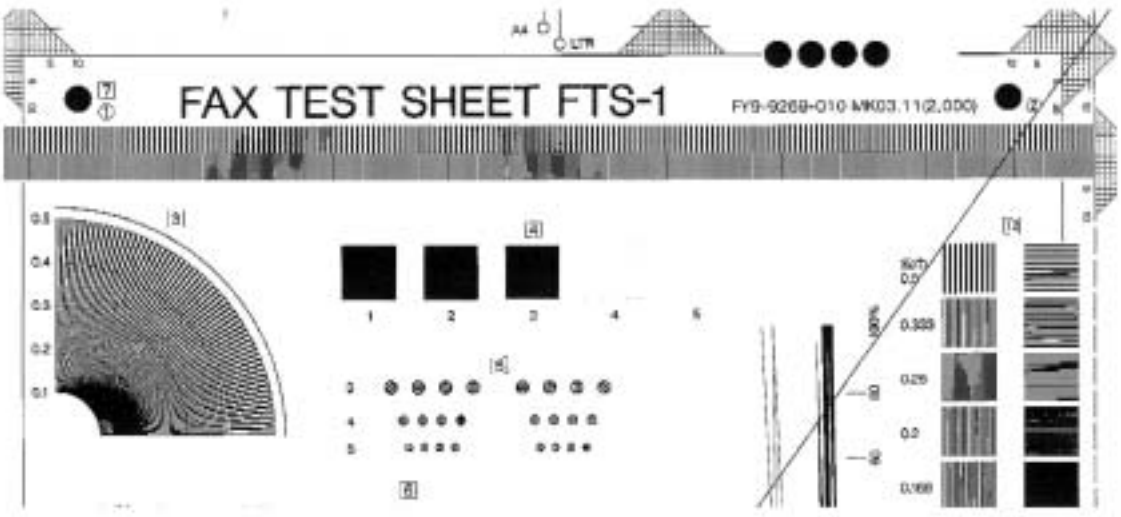


Figure 1-54 Service Error Tx Report

* 1 : Indicates four digits of the transaction number
* 2 : Number sent from the other party or number dialled (lower 20 digits)
* 3 : ID sent from the other party, if the other party is a Canon fax
* 4 : Communication start date and time (on 24-hour display)
* 5 : Communication time (in minutes and seconds)
* 6 : Number of pages for which transmission was complete
* 7 : “NG” display with number of pages for which transmission was fault, and service error code

3-8-6 EEPROM information print

< How to read EEPROM information print>

[Print sample]

MP780 V0.20 IF(USB1= 1 1284= 0) D= 004.5 ST= 2012/12/12-00:30
ER(ER0= 1612 ER1= 1602) LPT= 2012/12/13-02:16
PC(M= 000 R= 000 T= 003 D= 004 C= 002)
CLT(BK= 2012/12/13-02:22 CL= 2012/12/13-02:22)
CH= 00001 CT(BK1= 040 BK2= 000 C= 109 M= 012 Y= 113) IS(BK1= 0 BK2= 2 C= 0 M= 2 Y= 0
P_ ON(S= 00014) A_ REG= 1 M_ REG= 0
UR(A(BKoe)= 000 B(Coe)= 000 C(Moe)= 000 D(SCoe)= 000 E(SMoe)= 000 F(PBKoe)= 000
G(BKbi)= + 02 H(CLbi)= 000 I(BK-CL)= -01 J (SCLbi)= 000 K(C-SC)= 000 L(M-SM)= 000)

WP= 0117 CDIN(LG= 000 PB= 000) MSD(000)
PAGE(All= 00075 PP= 00075 HR+ MP= 00000 PR+ SP+ SG= 00000 GP= 00000 PC= 00000 EV= 00000)
UCPAGE(All= 00051 PP= 00051 HR+ MP= 00000 PR+ SP+ SG= 00000 GP= 00000 PC= 00000
EV= 00000)
BPPAGE(All= 00107 BSGP= 00000 PC= 00000)
CDPAGE(All= 00000) EDGE= 00000 L= 00000 CDR= 00000
CDRP= (-00144,+ 00295) CDRS= (028)
Head TempBK= 36.0 Head TempC= 32.0 Env Temp= 30.0 FF(FF FF FF)

HDEEPROM
V0001
SN= 0318-A43D
LN(00000 00000 00001 00003 00001 00000 00000)
ID= 04
IL= (BK= 000 C= + 01 M= 000 Y= 000 C2= 000 M2= 000 PBK= 000)

[Printed items]

1. Model name 2. ROM version 3. Connected I/F (USB1/1284) 4. Waste ink amount 5. Installation date
6. Operator call/service call error record 7. Last printing time
8. Purging count (manual/deep cleaning/timer/dot count/ink tank or print head replacement)
9. Cleaning time (BK/CL)
10. Print head replacement count 11. Ink tank replacement count (pigment BK/dye BK/C/M/Y) 12. Ink status (pigment BK/dye BK/C/M/Y)
13. Power-on count (soft) 14. Automatic print head alignment by user 15. Manual print head alignment by user
16. User print head alignment values
(Bkoe/Coe/Moe/SCoe/SMoe/PBKoe/BKbi/CLbi/BK-PCBK/SCLbi/C-SC/M-SM)
17. Wiping count 18. Camera Direct Print-supported device connection record 19. Longest period where printing stops
20. ASF feed pages (total, plain paper, High Resolution Paper & Matte Photo Paper, Photo Paper Pro & Photo Paper Plus Glossy & Photo Paper Plus Semi-gloss,Glossy Photo Paper, Postcard, Envelope)
21. U-turn cassette feed pages (total, plain paper, High Resolution Paper & Matte Photo Paper, Photo Paper Pro & Photo Paper Plus Glossy & Photo Paper Plus Semi-gloss, Glossy Photo Paper, postcard, envelope)
22. Auto duplex print pages (total, Photo Paper Plus Double Sided, postcard)
23. Camera Direct print pages (total) 24. Borderless print pages 25. L & 4x6 print pages
26. Number of CD-Rs printed
27. CD-R print position adjustment 28. CD-R sensor correction value
29. Print head temperature (BK/CL) 30. Inside temperature 31. Line inspection information

HDEEPROM

32. Version
33. Serial number
34. Lot number
35. Print head ID
36. Ink ejection level (BK/C/M/Y/C2/M2/PBK)

4. Cleaning Your Machine

This section describes the necessary cleaning procedures for your machine.

4-1 CAUTION

• Be sure to turn OFF the power and disconnect the power cord before cleaning the machine.

• If you turn OFF the machine, all the documents stored in memory are deleted. Print all the necessary documents stored in memory before turning OFF the machine.

• Do not use tissue paper, paper towels, or similar materials for cleaning; they can stick to the components or generate static charges. Use a soft cloth to avoid scratching the components.

• Never use volatile liquids such as thinners, benzene, acetone, or any other chemical cleaner to clean the machine; these can damage the machine's components.

4-2 Cleaning The Exterior

Wipe the machine’s exterior with a clean, soft, lint-free damp cloth.

4-3 Cleaning the Scan area

Wipe the Platen Glass (A) and the inner side of the Document Cover (white area) (B) with a clean, soft, lint-free cloth moistened with water. Then wipe with a clean, soft, dry, lint-free cloth making sure not to leave any residue, especially on the Platen Glass. If you have trouble getting the scanning area clean, wipe with diluted mild detergent (for dish washing).

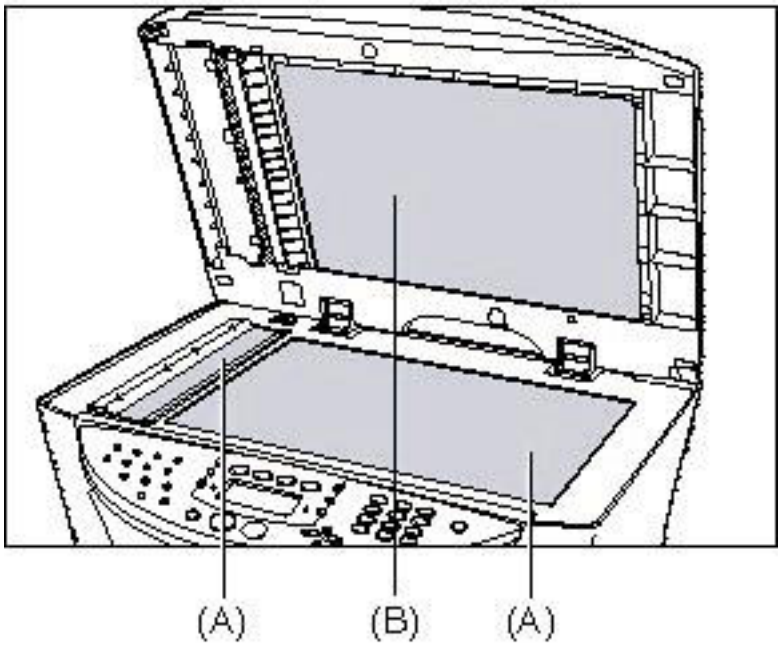


Figure 1-55 Cleaning the Scan area

4-4. Cleaning The Interior

Regularly clean the interior of the machine to avoid deterioration in print quality due to parts being dirtied by ink or paper dust.

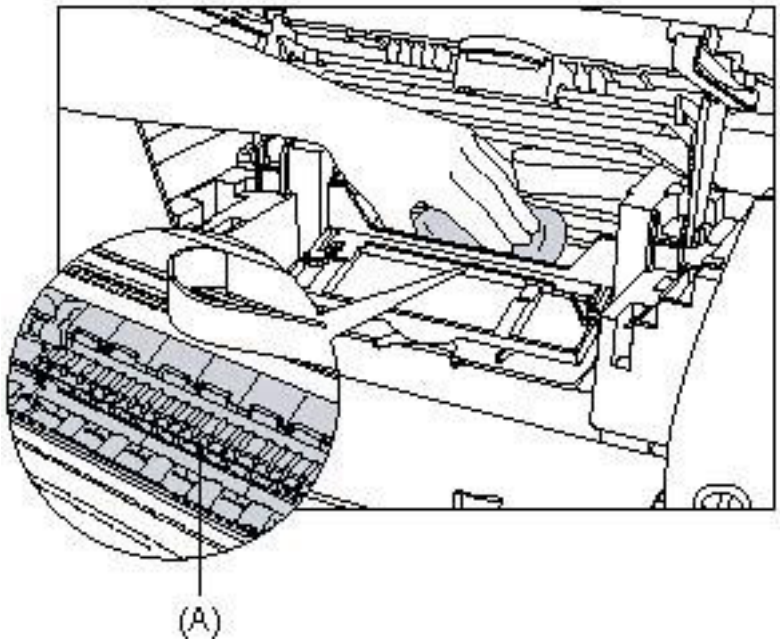


Figure 1-56 Cleaning The Interior

4-5. Cleaning the Feeder cover

With a soft, clean, lint-free and dry cloth, wipe off any paper dust from the inside of the Feeder Cover as illustrated by gray colored part.

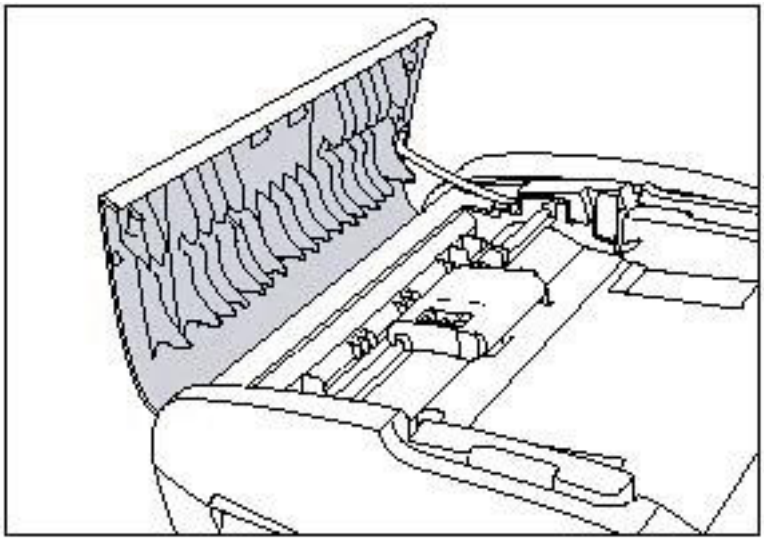


Figure 1-57 Cleaning the Feeder cover

4-6 Cleaning the Rubber Sheet / Paper Feed Roller / Separate Roller

Wipe the Rubber Sheet, the Paper Feed Roller, and the Separate Roller with a clean, soft, dry, lint-free cloth.

Figure 1-58 Cleaning the ADF

4-7 Cleaning the Paper Feed Roller

Follow this procedure:

1. Connect the power cord, and power on the machine.
2 Remove any paper from the Auto Sheet Feeder and Cassette.
3 Select the paper source with [Feed Switch] .
4 Press [Menu] repeatedly until < 3MAINTENANCE> appears.
5 Use [Right cursor] or [Left cursor] to select < ROLLERCLEANING>.
6 Press [OK] .
   The machine starts cleaning the roller.
7 When cleaning has finished, repeat steps 3 to 6 for a total of two times.
8 Load A4- or letter-size plain paper in the Auto Sheet Feeder or Cassette and repeat steps 3 to 5 an additional three times.

4-8 Cleaning The Bottom Plate

Follow this procedure:

1. Connect the power cord, and power on the machine
2. Remove any paper from the Auto Sheet Feeder.
3. Prepare a sheet of A4 or Letter size plain paper. Fold it in half along the long edge. Unfold the paper, then load it in the paper support with the outside edge of the fold facing down.
4. Press [Menu] repeatedly until < 3MAINTENANCE> appears.
5. Use [Right cursor] or [Left cursor] to select < BOTTOM CLEANING> .
6. Press [OK].

   The paper is fed and output.

MEMO:

If this component is still dirty after performing the operation described above, use a clean cotton bud to remove ink stain, paper powder, and dust around the platen (A).

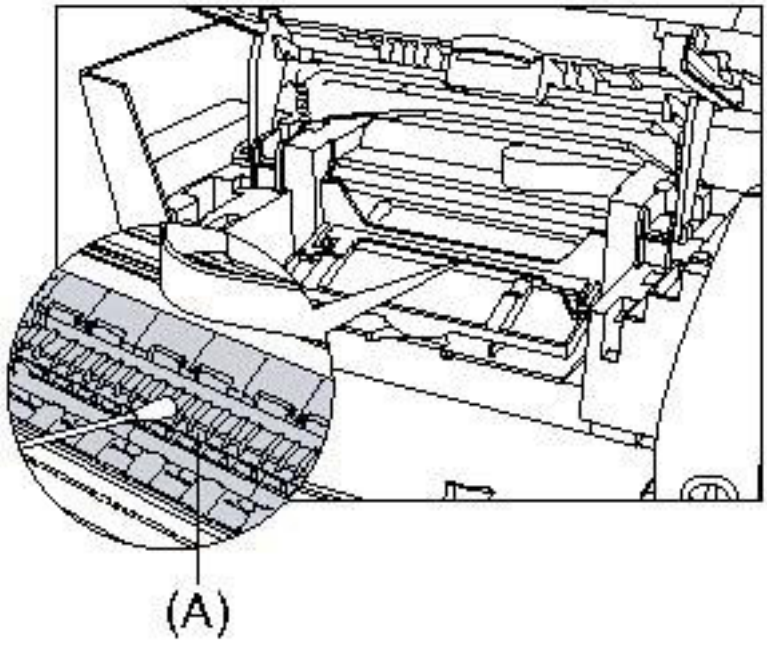


Figure 1-59 Cleaning the Platen

5. TRANSPORTATION

This section describes the procedures for transporting the printer for returning after repair, etc.

(1) Keep the print head and ink tanks installed in the carriage. [See NOTE (1) on the next page.]

(2) Turn off the printer to securely lock the carriage in the home position. (When the printer is turned off, the carriage is automatically locked in place.) [See NOTE (2) on the next page.]

(3) To further secure the carriage to prevent movement from the home position during transportation, make and use a fixing tool in the following procedures:

(a). Fold an A4-sized paper 5 times, and wrap it twice with tape, as shown in Figure A below (to prevent the fixing tool from caught into the inside of the printer).

(b). Insert the fixing tool between the carriage and the middle flame unit, and securely fix it with tape, as shown in Figures B and C below.

Note: The tape should be similar to the polyester tape used at shipment, which will not easily be torn or removed, or leave adhesive on the unit when removed.

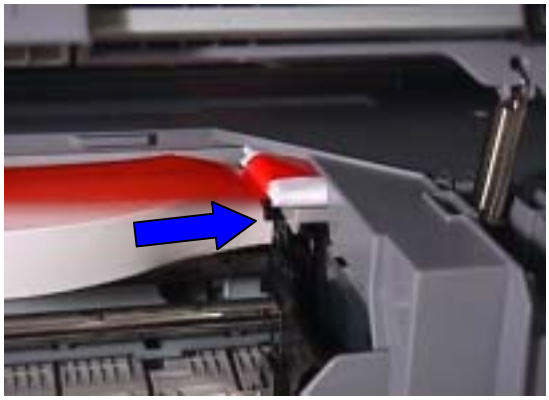
Leave a sufficient length of tape to fix the tool so that the tape end is easily seen even when the access cover is closed, so that the user will remove the tool from the returned printer without fail.

Description of a small piece of paper (example):

Before the machine is powered on, remove this tape and the stuff at the end of the tape (the fixing tool on the cartridge).

a.

b.



c.

d.

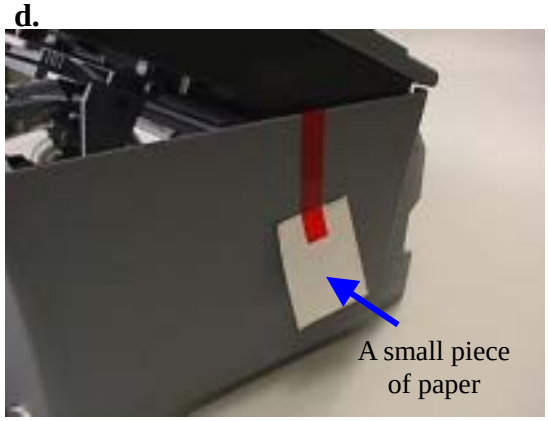


Figure 1-60 How to fix the Carriage

Caution:

(1) If the print head is removed from the printer and left alone by itself, ink (especially the pigment black ink) is likely to dry. For this reason, keep the print head installed in the printer even during transportation.

(2) Securely lock the carriage in the home position, to prevent the carriage from moving and applying stress to the carriage flexible cable, or causing ink leakage, during transportation.

Part 2
Technical Reference

1. NEW TECHNOLOGIES

(1) Dye black ink adoption

In addition to the pigment black ink, dye black ink is adopted in this machine, so that special paper can be printed in black ink. (For printing plain paper, the pigment black ink is used.)

(2) Automatic Print Head Position Alignment

In this machine, the print head position can be aligned automatically by operating the buttons on the operation panel and operating from the driver utility.

This is the function to detect the reflection density at the print head position alignment sensor (the same sensor as the CD-R position detection sensor) and appropriately set the print head position alignment by scanning the print pattern shown below.

The folloings are detected during the automatic print head position alignment. If an error is detected, <AUTO HEAD ALIGN ERROR> (LCD message) is displayed.

1) Detecting Paper Size
   - Detecting Paper Width (an error is detected if the paper width is too short.)
   - Detecting Paper Length (an error is detected if the length is shorter than A4/LTR.)

2) Detecting Print Failure due to no ink ejected
   - Detecting Ink Ejecting Status (an error is detected if no ink is ejected.)

<Print Pattern for the Automatic Print Head Position Alignment>

Plain Paper A4/LTR

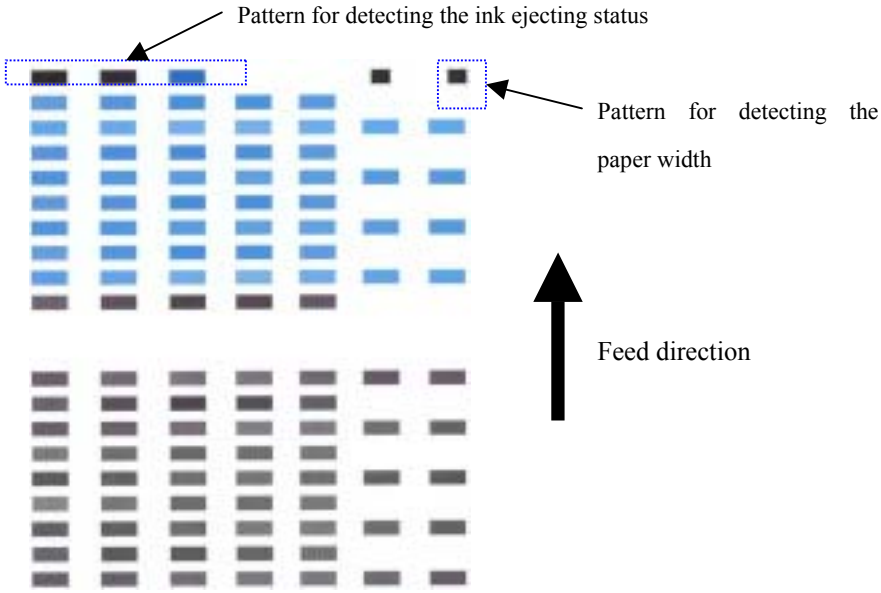


Figure 2-1 Print Pattern for the Automatic Print Head Position Alignment

<Phenomena of predictable troubles and the Solutions (how to avoid the troubles)>

1) Although the paper size is correct (A4/LTR) and the print head position alignment pattern is printed correctly, an error of the automatic print head position alignment failure occurs.

[Solution] Set "Align heads manually" to valid at the driver utility special settings, and perform the print head position alignment manually.

(3) Automatic duplex printing

This function can be used only when the paper size is set to <A4> or <LTR>.

<Phenomena of predictable troubles and the Solutions (how to avoid the troubles)>

1) The printing surface of paper is dirty. (Cause: Due to accumulated ink mist.)
The phenomena will be the following two types.

a) A vertical line is printed incorrectly (stain on the platen rib).
[Solution] Clean the interior of the main unit.

b) A holizontal stain is printed around 10 mm from the top edge of paper (back side) (stain in the interior of the double side unit).
[Solution] Replace the ASF unit.

(4) Making Multiple Copies of an Entire Document (Collation)

When making multiple copies of a documet with more than one page, you have them delivered in sorted sets.

(Example): To copy three sets of a 3-page document (Page a, b, c in order) with the electronic sort.
The copied paper is delivered in order of (c, b, a), (c, b, a), (c, b, a).

2. CLEANING MODE AND AMOUNT OF INK PURGED

To prevent printing problems due to bubbles, dust, or ink clogging, print head cleaning is performed before the start of printing, except in the following cases:

- Cleaning on arrival: Performed when the access cover is closed.
- Cleaning by dot count: Performed after ejection of paper (or after printing on the back side of paper when auto duplex printing is performed).
- Manual cleaning / deep cleaning: Performed manually.

<Cleaning mode list> * Black: Pigment-based black Color: Dye-based black, cyan, magenta, yellow

Condition	Details	Amount of ink used(g)	Est. required time (sec)
On arrival of the printer (All in sequence)	First and second cleaning after shipped from the plant.	0.45(BK) 1.50(Color)	70
Dot count cleaning*1 (Black/Color)	When the specified number of dots are printed since the previous Black/Color cleaning. (Cyan and magenta dots are counted by large and small nozzles separately.)	0.14(BK) 0.50(Color)	30(BK) 35(Color)
Timer cleaning - 0*2 (Black only)	If 24 to 60 hours have elapsed since the previous Black cleaning till the start of the next printing.	0.14(BK)	30(BK)
Timer cleaning - 1 (Black only)	If 60 to 96 hours have elapsed since the previous Black cleaning till the start of the next printing.	0.14(BK)	30(BK)
Timer cleaning - 2 (Black only)	If 96 to 120 hours have elapsed since the previous Black cleaning till the start of the next printing.	0.14(BK)	30(BK)
Timer cleaning - 3*3 (Black/Color)	If 120 to 336 hours have elapsed since the previous Black/Color cleaning till the start of the next printing	0.14(BK) 0.50(color)	30(BK) 35(color)
Timer cleaning - 4 (All in sequence)	If 336 to 504 hours have elapsed since the previous Black/Color cleaning till the start of the next printing	0.45(BK) 1.00(Color)	60
Timer cleaning - 5 (All in sequence)	If 504 to 720 hours have elapsed since the previous Black/Color cleaning till the start of the next printing	0.45(BK) 1.00(Color)	60
Timer cleaning - 6 (All in sequence)	If 720 to 1080 hours have elapsed since the previous Black/Color cleaning till the start of the next printing	0.45(BK) 1.00(Color)	60
Timer cleaning - 7 (All in sequence)	If 1080 to 2160 hours have elapsed since the previous Black/Color cleaning till the start of the next printing	0.78(BK) 1.00(Color)	60
Timer cleaning - 8 (All in sequence)	If 2160 to 4320 hours have elapsed since the previous Black/Color cleaning till the start of the next printing	1.58(BK) 1.00(Color)	65
Timer cleaning - 9 (All in sequence)	If 4320 to 8640 hours have elapsed since the previous Black/Color cleaning till the start of the next printing	1.58(BK) 1.00(Color)	65
Timer cleaning - 10 (All in sequence)	If 8,640 or longer hours have elapsed since the previous Black/Color cleaning till the start of the next printing	1.58(BK) 1.00(Color)	65
At print head replacement (All in sequence)	When the print head is removed and installed.	0.45(BK) 1.50(Color)	70
At ink tank replacement (Black/Color)		0.30(BK) 1.00(Color)	45 (All in sequence) 30(BK) 35(color)

Condition	Details	Amount of ink used(g)	Est. required time (sec)
Manual cleaning (Black/Color/All at the sametime)	- Via the operation panel (All at the same time only) - Via the printer driver (Selectable from Black, Color, or All at the same time)	0.14(BK) 0.50(Color)	45 (All at the same time) 30(BK) 40(Color)
Deep cleaning (Black/Color/All at the same time)	Via the printer driver (Selectable from Black, Color, or All at the same time)	1.58(BK) 1.00(Color)	65 (All at the same time) 45(BK) 50(Color)
If the print head has not been capped before power-on (All in sequence)		0.30(BK) 1.00(Color)	45(All in sequence)

*1: The dots since the previous cleaning are counted by Black and Color separately. For this reason, the cleaning mode may differ according to Black or Color.

*2: When 24 to 60 hours have elapsed since the previous Black cleaning, timer cleaning - 0 is performed. However, this cleaning will be conducted up to 5 times from the printer installation, and no further timer cleaning - 0 will be performed.

*3: The period of time since the previous cleaning is counted by Black and Color separately. For this reason, the cleaning mode may differ according to Black or Color.

3. Print Mode

(1) Copy

INK (Column: Number of Colors)

BK :BCI-3eBK
C :BCI-6C 5pl
M :BCI-6M 5pl
Y :BCI-6Y
k :BCI-6BK
c :BCI-6C 2pl
m :BCI-6M 2pl

("CMcm" shown in a column means printing in the mixture of CM5pl/cm2pl.)

Print Quality		5	4	3	2	1
PP	Mode Resolution(dpi) No. of passes	color draft 150x600 CMYBK 1 pass	-	color standard 1200x1200dpi CMYBK 1 pass	color fine 1200x1200dpi CMYBKcm 4 passes	-
PP Two-sided printing	Mode Resolution(dpi) No. of passes	color draft 150x600 CMYBK 1 pass	-	color standard 1200x1200dpi CMYBK 1 pass	color fine 1200x1200dpi CMYBKcm 4 passes	-
PP White/Bk	Mode Resolution(dpi) No. of passes	W/B draft 150x600 BK 1 pass	-	W/B standard 600x600dpi CMYBK 1 pass	W/B fine 600x600dpi CMYBKcm 4 passes	-
PP White/Bk Two-sided printing	Mode Resolution(dpi) No. of passes	W/B draft 150x600 CMYBK 1 pass	-	W/B standard 1200x1200dpi CMYBK 1 pass	W/B fine 1200x1200dpi CMYBKcm 4 passes	-
PR	Mode Resolution(dpi) No. of passes	-	-	color and W/B fine 1200x1200dpi CMYcmk 4 passes	-	-
SP (GP/HR/IJ-PC/ other photo)	Mode Resolution(dpi) No. of passes	-	-	color and W/B fine 1200x1200dpi CMYcmk 4 passes	-	-
OHP	Mode Resolution(dpi) No. of passes	-	-	color and W/B fine 1200x1200dpi CMYBKcm 4 passes	-	-

(2) Standard Color Printing (at PC Printer Driver)

Defult setting
Can be set at Main tab
custom setting

Inktank
5 color : BCI-3eBK / 6BK / 6C / 6M / 6Y
4 color *1 : BCI-3eBK / 6C / 6M / 6Y
4 color *2 : BCI-6BK / 6C / 6M / 6Y
3 color : BCI-6C / 6M / 6Y
1 color : BCI-3eBK

paper type	Drv.UI Custom	Fast 5	<— 4	 3	—> 2	High Quality 1
Plain paper (PP)	Print Quality Resolution(dpi) Pass Print control Ink	**Custom** 600x600 1 pass 4 color*1	**Draft** 600x600 1 pass 4 color*1	**Standard** 1200x1200 1 pass 4 color*1	**High** 1200x1200 4 pass 4 color*1	
Photo Pater Pro (PR) PR-101	Print Quality Resolution(dpi) Pass Print control Ink			**Standard** 1200x1200 4 pass 4 color*2	**High** 1200x1200 6 pass 4 color*2	**Custom** 4800x1200 16 pass 4 color*2
Sper Photo Paper SP-101/SG-101	Print Quality Resolution(dpi) Pass Print control Ink		**Draft** 1200x1200 3 pass 4 color*2	**Standard** 1200x1200 4 pass 4 color*2	**High** 1200x1200 6 pass 4 color*2	
Matte Photo Paper MP-101	Print Quality Resolution(dpi) Pass Print control Ink			**Standard** 1200x1200 4 pass 4 color*2	**High** 1200x1200 6 pass 4 color*2	
Glossy Photo Paper GP-401	Print Quality Resolution(dpi) Pass Print control Ink			**Standard** 1200x1200 4 pass 4 color*2	**High** 1200x1200 6 pass 4 color*2	
Super Photo Paper Double Side SP-101D	Print Quality Resolution(dpi) Pass Print control Ink			**Standard** 1200x1200 4 pass 4 color*2	**High** 1200x1200 6 pass 4 color*2	
High Resoluton Paper HR-101S	Print Quality Resolution(dpi) Pass Print control Ink			**Standard** 1200x1200 4 pass 4 color*2	**High** 1200x1200 6 pass 4 color*2	
Postal Card	Print Quality Resolution(dpi) Pass Print control Ink			**Standard** 1200x1200 2 pass 5 color	**High** 1200x1200 4 pass 5 color	
Postal Card for Inkjet printer	Print Quality Resolution(dpi) Pass Print control Ink		**Draft** 1200x1200 2 pass-Bi- directional 4 color*2	**Standard** 1200x1200 3 pass 4 color*2	**High** 1200x1200 4 pass 4 color*2	
Transparncy CF-102	Print Quality Resolution(dpi) Pass Print control Ink			**Standard** 1200x1200 4 pass 5 color	**High** 1200x1200 6 pass 5 color	
T-Shirt Transfers TR-301	Print Quality Resolution(dpi) Pass Print control Ink			**High** 1200x1200 6 pass 3 color		
CD-R (Commend) 230V only	Print Quality Resolution(dpi) Pass Print control Ink			**Draft** 1200x1200 4 pass-Bi- directional 4 color*2	**Standard** 1200x1200 6 pass-Bi- directional 4 color*2	**High** 1200x1200 8 pass-Bi- directional 4 color*2
CD-R(Other) 230V only	Print Quality Resolution(dpi) Pass Print control Ink			**Draft** 1200x1200 4 pass-Bi- directional 4 color*2	**Standard** 1200x1200 6 pass-Bi- directional 4 color*2	**High** 1200x1200 8 pass-Bi- directional 4 color*2
Other Photo Paper	Print Quality Resolution(dpi) Pass Print control Ink			**High** 1200x1200 8 pass 4 color*2		

(3) Standard Gray Scale Printing (at PC Printer Driver)

Paper Type	Drv.UI Custom	Fast 5	<— 4	3	—> 2	High Quality 1
Plain Paper	Print Quality	**Custom**	**Draft**	**Standard**	**High**	
	Resolution(dpi)	300x300	300x300	600x600	600x600	
	Pass	1 pass	1 pass	1 pass	4 pass	
	Print control Ink	1 color	1 color	1 color	1 color	
Postal Card	Print Quality			**Standard**	**High**	
	Resolution(dpi)			600x600	600x600	
	Pass			2 pass	4 pass	
	Print control Ink			1 color	1 color	

(4) Borderless Printing (at PC Printer Driver)

Paper Type	Drv.UI Custom	Fast 5	<— 4	3	—> 2	High Quality 1
Plain Paper	Print Quality			**Standard**		
	Resolution(dpi)			1200x1200		
	Pass			2 pass-Bi-directional		
	Print control Ink			4 color*2		
Photo Paper Pro PR-101	Print Quality			**Standard**	**High**	**Custom**
	Resolution(dpi)			1200x1200	1200x1200	4800x1200
	Pass			4 pass	6 pass	16 pass
	Print control Ink			4 color*2	4 color*2	4 color*2
Super Photo Paper SP-101/SG-101	Print Quality		**Draft**	**Standard**	**High**	
	Resolution(dpi)		1200x1200	1200x1200	1200x1200	
	Pass		3 pass	4 pass	6 pass	
	Print control Ink		4 color*2	4 color*2	4 color*2	
Matte Photo Paper MP-101	Print Quality			**Standard**	**High**	
	Resolution(dpi)			1200x1200	1200x1200	
	Pass			4 pass	6 pass	
	Print control Ink			4 color*2	4 color*2	
Glossy Photo Paper GP-401	Print Quality			**Standard**	**High**	
	Resolution(dpi)			1200x1200	1200x1200	
	Pass			4 pass	6 pass	
	Print control Ink			4 color*2	4 color*2	
Super Photo Paper Double Side SP-101D	Print Quality			**Standard**	**High**	
	Resolution(dpi)			1200x1200	1200x1200	
	Pass			4 pass	6 pass	
	Print control Ink			4 color*2	4 color*2	
Postal Card	Print Quality			**Standard**	**High**	
	Resolution(dpi)			1200x1200	1200x1200	
	Pass			2 pass	4 pass	
	Print control Ink			4 color*2	4 color*2	
Postal Card for Inkjet printer	Print Quality		**Draft**	**Standard**	**High**	
	Resolution(dpi)		1200x1200	1200x1200	1200x1200	
	Pass		2 pass	3 pass	4 pass	
	Print control Ink		4 color*2	4 color*2	4 color*2	
Other Photo Paper	Print Quality			**High**		
	Resolution(dpi)			1200x1200		
	Pass			8 pass		
	Print control Ink			4 color*2		

(5) Duplex Printing (at PC Printer Driver)

Paper Type	Drv.UI Custom	Fast 5	<— 4	3	—> 2	High Quality 1
Plain paper	Print Quality Resolution(dpi) Pass Print control Ink	**Custom** 600x600 1 pass 4 color*1	**Draft** 600x600 1 pass 4 color*1	**Standard** 1200x1200 1 pass 4 color*1	**High** 1200x1200 4 pass 4 color*1	
Super Photo Paper Double Side SP-101D	Print Quality Resolution(dpi) Pass Print control Ink			**Standard** 1200x1200 4 pass 4 color*2	**High** 1200x1200 6 pass 4 color*2	
Postal Card	Print Quality Resolution(dpi) Pass Print control Ink			**Standard** 1200x1200 2 pass 5 color	**High** 1200x1200 4 pass 5 color	
Postal Card for Inkjet printer *Supporting Duplex Printing only in using the Postal Card application	Print Quality Resolution(dpi) Pass Print control Ink		**Draft** 1200x1200 2 pass 4 color*2	**Standard** 1200x1200 4 pass 4 color*2	**High** 1200x1200 6 pass 4 color*2	

(6)Camera Direct Printing (at PC Printer Driver)

Paper type	Drv.UI Custom	Fast 5	<— 4	3	—> 2	High Quality 1
Photo Paper Pro PR-101	Print Quality Resolution(dpi) Pass Print control Ink				**High** 1200x1200 6 pass 4 color*2	
Super Photo Paper SP-101/SG-101	Print Quality Resolution(dpi) Pass Print control Ink				**High** 1200x1200 6 pass 4 color*2	

4. FAQ(Problems Specific to the MP750 / MP780 and Corrective Actions)

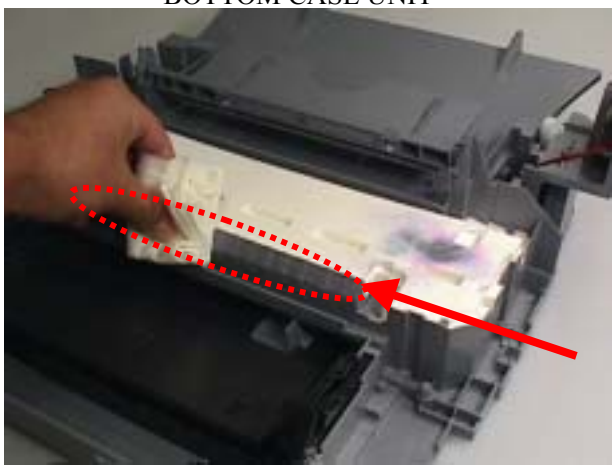
No	*	Function	Phenomenon	Condition	Cause	Corrective action	Possible call or complaint
1	C	Print results	Margin (approx. .3mm)	-Paper feeding from the cassette, Photo Paper Plus Double Sided (A4), orderless printing, printing on the back side of paper -In the low temperature and low humidity environment		-In the printer driver, increase the amount of extension. -Change the paper feeding method from the cassette to the auto sheet feeder.	-A margin appears on printouts. -Paper feeds at an angle.
2	B	Print results	-Skewed paper feeding -Printing on the platen	-Plain paper -In the high temperature and high humidity environment		-If paper is curled, straighten it. -Try printing on the other side of paper.	-Paper feeds at an angle. -Printing is performed on the platen. -The back side of paper gets smeared.
3	B	Print results	Variation in the top of form accuracy	-A5 or legal size -In the low temperature and low humidityenvironment -Not solved even when the number of sheets stacked in the auto sheet feeder or the cassette is reduced	Due to decrease of paper feed capability in the low temperature and low humidity environment	-Set the top margin to 4mm or more.	-Print start position varies.
4	B	Print results	-Skewed paper feeding -Margin	-Photo Paper Plus Double Sided -2L size (Japan only)		-In the printer driver, increase the amount of extension. -Change the paper feeding method from the cassette to the auto sheet feeder.	-A margin appears on printouts. -Paper feeds at an angle.
5	C	Safety during transportation	Carriage lock lever dislocation	-With the print head and tanks installed -The phenomenon occurred in the freight handling test		When returning the repaired printer to the user, insert the fixing tool(A4 plain paper folded 5 times) between the main case and the carriage, and fix it with tape. [See Part5. Transportation]	During transportaion for return after repair, Ink dries, and no ink is ejected.

No	*	Function	Phenomenon	Condition	Cause	Corrective action	Possible call or complaint
6	A	Print results	Soiling on the back side of paper (lines or streaks parallel to the paper feed direction)	-After continuous borderless printing of small sized paper (such as 4x6), when a larger sized paper (such as A4) is rinted. -With Photo Paper Plus Double Sided or postcards, the phenomenon is likely to be noticeable and to be complained of by users, as printing is performed on both sides of such paper.	In borderless printing, printing is performed to the size slightly larger than the paper size, and ink off the paper is absorbed by the platen's ink absorber. Absorbed ink may attach to the platen rib(s) after several dozen sheets are printed, causing soiling at the leading edge of paper or on the back side of paper.	1.Perform Bottom plate cleaning (from the printer driver) up to 3 times*1. *1: Change the paper in each Bottom plate cleaning. The cleaning can end when paper dose not get any soiling. 2.If soiling on the paper still remains after 3 times of Bottom plate cleaning, wipe the platen rib(s) and their surroundings with a cotton swab.	-Paper gets smeared. -The back side of paper gets smeared.
7	B	Print results	Soiling on paper in automatic duplex printing (lines or streaks perpendicular to the paper feed direction)	- Automatic duplex printing (Photo Paper Plus Double Sided, postcards, plain paper)	On the rib(s) inside the sheet feed unit used for duplex printing, ink mist may accumulate, smearing paper.	**Cleaning by user:** 1. Perform Bottom plate cleaning (from the printer driver) up to 3 times*1. *1: Change the paper in each Bottom plate cleaning. The cleaning can end when paper does not get any soiling. 2. If soiling on the paper still remains after 3times of Bottom plate cleaning, wipe the platen rib(s) and their surroundings with a cotton swab.If the phenomenon persists after conducting 1 and 2, servicing is required. **Service:** Wipe any soiling or dirt off from the sheet feed unit and the bottom case unit ribs*2.	cleaning was performed, and the platen ribs were cleaned with cotton swab, paper gets smeared.

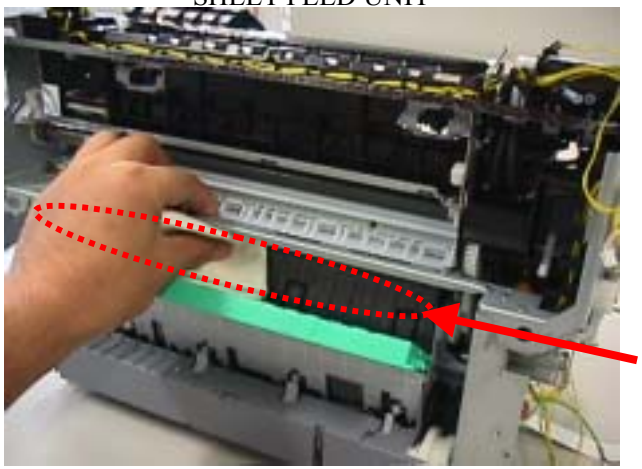
No	*	Function	Phenomenon	Condition	Cause	Corrective action	Possible call or complaint
8	C	Print results	Scratches on paper	-PP-101D, PP-101, PR-101, SG-101, etc. -Paper feeding from the cassette -Multiple number of sheets loaded	-Paper is scratched. -Marks appear on printed paper.	-Change the paper feeding method from the cassette to the auto sheet feeder. -If automatic duplex printing is performed, cancel it, and, by setting only a single sheet of paper in the auto sheet feeder, manually print each side of paper.	Scratches on the PF return lever due to paper feeding from the cassette, and duplex printing path.

*2 Location to clean in servicing when soiling on paper in automatic duplex printing persists:

BOTTOM CASE UNIT



SHEET FEED UNIT



* Occurrence level:

A: The symptom is likely to occur frequently. (Caution required)

B: The symptom may occur under certain conditions, but likeliness is assumed very low in practical usage.

C:The symptom is unlikely to be recognized by the user, and no practical issues are assumed.

Part 3
Appendix

3. **PIXMA MP750/MP780 Specification**

<GENERAL>

Printer		YES
Scanner		YES
Copy		YES
Facsimile		YES
Memory Card		NO
Memory Card Slot		-
Media	PCMCIA (ATA)	-
	Compact Flash	-
	Micro Drive	-
	Smart Media	-
	Memory Stick	-
	SD/MMC	-
	xD-Picture Card	-
Data Storage	READ	-
	WRITE	-
Scan To Memory Card		-
Photo-Direct print		NO
Applicable Image	DCF	-
	CIFF	-
	J FIF	-
	Exif (J PEG)	-
Print Mode	INDEX	-
	All Photo	-
	Specify Photo	-
	DPOF	-
Layout	2 frames	-
	4 frames	-
Power Consumption	MAX	Approx. 40W
	Standby	Approx. 20W
Noise	Standby	None
	Copy(Casette, ADFCopy)	52dB (A) max.
Durability	Unit	5 years
	Scanning Section	15,000 pages
	Printing Section	18,000 pages (Color/Black&White)
Siz e	Including Tray	19 1/8 in.(W) x 18 5/8 in.(D) x 12 3/8 in.(H) (W486mm* D472mm* H314mm) (With the Paper Support and the Paper Output Tray closed) 19 1/8 in.(W) x 21 1/8 in.(D) x 12 3/8 in.(H) (W486mm x D538mm x H314 mm (H)) (With the Paper Support, the Paper Output Tray, and both extensions opened)
Weight	Standard	13.7kg (Including Print Head and Ink Tank + 0.2kg

<Scanner Function>

Type		Flatbet / ADF
Reading System	Sensor Type	2400dpi staggerd CCD
ADF		YES
Reading Resolution		2400 x 4800 dpi max * ADF 600 x 600 dpi max
Gradation bit	Color (Input)	48bit
	Color (OutPut)	24bit
	Gray (Input)	16bit
	Gray (Output)	8bit
Maximum Document Siz e		216 mm x 297 mm
Effective Scanning Width (mm)		
Local Scan Driver	TWAIN	YES
	WIA	YES

<Printer Function>

ASF		YES
Siz e		A4, A5, B5, 4" x 6" , LTR, LGL
Paper Materials		Plane paper, other
Printing resolution		4800 x 1200 dpi
Printing Speed (page/min)		25 ppm (BK) / 17 ppm (Color)
Printing direction		Bi-direction
Printable area (none printable area form each edge)		3.4mm right/left edge, 3mm top, 2mm bottom
Printing Cartrige		
Product Name		Z F 554
Print Yield	Black (BCI3eBK)	approx. 740 pages (Black 1,500 character std pattern, Plain std mode) approx. 1,500 pages (ISO J IS-SCID No.5 pattern, Plain std mode)
	Yellow (BCI-6Y)	360 pages (ISO J IS-SCID No.5 pattern, Plain std mode)
	Magenta (BCI-6M)	approx. 430 pages (ISO J IS-SCID No.5 pattern, Plain std mode)
	Cyan (BCI-6C)	approx. 550 pages (ISO J IS-SCID No.5 pattern, Plain std mode)
	Black (BCI-6BK)	approx. 2,000 pages (ISO J IS-SCID No.5 pattern, Plain std mode)
Ink Remaining Detection		YES
Detection Method		prism + Dot count
Paper Capacity		Maximally 50 sheets (Plain 75g/m^2)
Borderless Printing		YES
Silent Mode Printing		YES
CD-R Label Print		YES

<Copy Function>

Copy Print Resolution	Black & White	600 x 600 dpi (Normal mode)
	Color	1200 x 1200 dpi (Normal mode)
Copy speed	Ink J et Black & White (Draft)	25 ppm
	Color(Fast)	17 ppm
Scanning Density Adjustment		YES
Manual		9 positions
Multipule Copies		99
Preset RE Ratio		YES
Enlarge	Max.	YES
	4” x 6” ->	
	5” x 7” -> TR	YES
Reduction	100%	YES
	A4 -> TR	YES
Z oom		YES
Z ooming Range		25-400 %
Auto Magnification Selection (AMS)		YES
Image Quality	B & W	Fast, Normal, Fine (photo)
	Color	Fast, Normal, Fine (photo)
Energy Saving Mode		YES (15 min/ 1 hour/ 4 hour/ 8 hour)
Image Combination		YES
2 in 1		YES
4 in 1		NO
Image Repaet (Auto/Manu)		YES/YES
Mirror Image		NO

Seal Copy	YES
Name Card Copy	YES
Postcard Copy	NO
Borderless Copy	YES
Poster	NO
Fit to Page	YES
Entire Document	NO

<FAX Function> (PIXMA MP780 only)

Applicable Line	PSTN	YES
	Others (Private Line,etc)	NO
Transmission Method		Half-duplex
Error Correction		ITU-T ECM
Transmission Control Protocol		ITU-T T.30 binary protocol ITU-T V.8 protocol, V.34 protocol
Compression System	B & W	MH, MR, MMR, J BIG
	Color	J PEG
Modem	Modem IC	CONEXANT FM336PLUS
	Speed	33.6 kbps
Modulation Method	G3 image signals	ITU-T V.27ter (4.8k, 2.4k bps) ITU-T V.29 (9.6k, 7.2k bps) ITU-T V.17 (14.4k, 12.0k, TC9.6k, TC7.2k bps) ITU-T V.34 (33.6k, 31.2k, 28.8k, 26.4k, 24.0k, 21.6k, 19.2k, 16.8k, 14.4k, 12.0k, 9.6k, 7.2k, 4.8k, 2.4k bps)
	G3 procedure signals	ITU-T V.21 (No.2) (300 bps) ITU-T V.8 (300 bps) ITU-T V.34 (1200 bps, 600bps)
Transmission Speed	Canon Fax Standerd Chart (G3)	approx. 3seconds
Transmission Output Level		From -8 to -15 dBm
Receive Input Level		From -3 to -43 dBm

<Color FAX >(PIXMA MP780 only)

Color	Scanning Document Siz	A4
	Printing Paper Siz e	A4
	Resolusion	200 dpi
	Color Codeing Method	J PEG
	Color Spade	CIE-LAB
	Color Depth	8 bit (each colors)

<Function>

Dialing (MP780 only)	Manual 10-key Dialing	YES
	On-Hook Key	YES
	Automatic Dialing	YES
	One-Touch Speed Dialing	8
	Coded-Speed Dialing	100
	Programmable Number of Digits	60(Max), 19(Ave.)
	Group Dialing	YES
	Redial	YES
Transmission (MP780 only)	Dual Access	YES
	Max. File No. of Reservation	100
	Polling Tx	NO
	Sequential Broadcasting	NO
	Delayed Transmission	NO
	Confidential Transmission	NO
	Relay Broadcasting Command	NO
Reception (MP780 only)	FAX/TEL Switch	YES
	Detecting Signal	CNG
	OGM	-
	Psuedo-CI	YES
	Built-in Answering Machine	NO
	Answering Machine Hook-up	YES
	Detecting Signal	CNG
	Remote Reception	YES
	Telephone Exchange Function	NO
	Speaker Phone	NO
	Memory Reception	YES
	Page	250 sheets
	Memory Lock Reception	NO
	Polling Reception	NO
	Confidential Mailbox	NO
	Received Image Reduction	YES
	Fixed	NO
	Automatic Reduction (Main/Sub)	YES
	Reduction Ratio	70-100%
Memory Backup (MP780 only)	Backup Contents	Dial Registration Data, User Data, Service Data, Time, etc.
	Backup IC	128 kbit EEPROM (battery unnecessary)
Backup Device	Lithium battery	DC 3.0V/220mAh
	Battery Life	Approx.5 years
Image Data Backup		NO
Image Memory	Approx 5MB	
Activity Management (MP780 only)		
User Report	Activity Result Report	YES
	Activity Management Report(Tx/Rx)	YES
	One-Touch Speed Dialing List	YES
	Coded Speed Dialling List	YES
	Memory Clear List	No
	Group Dialling List	YES
	User's Data List	YES
	Document Memory List	YES
	Multi Activity Report	YES
Service Report	System Data List	YES
	System Damp List	YES

PRINTED IN JAPAN (IMPRIME AU JAPON) **CANON INC.**